This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

3870.2.5

Harvard College Library

FROM THE

UNITED STATES GOVERNMENT

THROUGH

The Industrial Commission

12 Feb. 1902.

Harvard College Library

FROM THE

UNITED STATES GOVERNMENT

THROUGH

The Industrial Commission

12 Feb. 1902.

Econ 3870

INDUSTRIAL COMBINATIONS. YUKON AND NOME GOLD REGIONS.

BULLETIN

OF THE

DEPARTMENT OF LABOR.

No. 29—JULY, 1900.

ISSUED BIMONTHLY.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1900.

REPORTS PUBLISHED BY THE DEPARTMENT OF

ANNUAL.

1886.	First,	Industrial Depressions
1886.	Second,	Convict Labor
1887.	Third,	Strikes and Lockouts (Jan. 1, 1881, to Dec. 31, 1886)
1888.	Fourth,	Working Women in Large Cities
1889.	Fifth,	Railroad Labor
1890.	Sixth,	Cost of Production: Iron, Steel, Coal, etc.
1891.	Seventh,	Cost of Production: The Textiles and Glass (2 vols.)
1892.	Eighth,	Industrial Education
1893.	Ninth,	Building and Loan Associations
1894.	Tenth,	Strikes and Lockouts (Jan. 1, 1887, to June 30, 1894) (2 vols.)
1895–96.	Eleventh,	Work and Wages of Men, Women, and Children
1897.	Twelfth,	Economic Aspects of the Liquor Problem
1898.	Thirteenth,	Hand and Machine Labor (2 vols.)
1899.	Fourteenth,	Water, Gas, and Electric-light Plants under Private and Municipal Ownership

SPECIAL.

1889.	First,	Marriage and Divorce
1892.	Second,	Labor Laws of the United States (second edition, revised, 1896)
1893.	Third,	Analysis and Index of all Reports issued by Bureaus of Labor Statistics in the United States prior to Nov. 1, 1892 (out of print)
1893.	Fourth,	Compulsory Insurance in Germany, etc.
1893.	Fifth,	The Gothenburg System of Liquor Traffic
1893.	Sixth,	The Phosphate Industry of the United States (with maps and illustrations)
1894.	Seventh,	The Slums of Baltimore, Chicago, New York, and Philadelphia
1895.	Eighth,	The Housing of the Working People (with plans and illustrations)
1897.	Ninth,	The Italians in Chicago

BULLETIN

OF THE

DEPARTMENT OF LABO

No. 29—JULY, 1900.

ISSUED EVERY OTHER MONTH.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1900.

Econ 3870.2.5

12 Feb. 1902

Industrial Commission

EDITOR,

CARROLL D. WRIGHT,

COMMISSIONER.

ASSOCIATE EDITORS,

G. W. W. HANGER,

CHAS. H. VERRILL, STEPHEN D. FESSENDEN.

CONTENTS.

	Page.
Trusts and industrial combinations, by Jeremiah W. Jenks, Ph. D., of Cornell University	661–831
The Yukon and Nome gold regions, by Sam. C. Dunham	832–872
Labor Day, by Miss M. C. de Graffenried, of the Department of Labor	873–876
Hours of labor and of rest of railway employees in Prussia	877
Digest of recent reports of State bureaus of labor statistics:	
Illinois	878
Kansas	878–881
Michigan	881–883
Digest of recent foreign statistical publications	884–889
Decisions of courts affecting labor	890–900
Laws of various States relating to labor enacted since January 1, 1896	901–911
Recent Government contracts	912

BULLETIN

OF THE

DEPARTMENT OF LABOR.

No. 29. WASHINGTON. JULY, 1900.

TRUSTS AND INDUSTRIAL COMBINATIONS.

BY JEREMIAH W. JENKS, PH. D.

[The organic law of the Department of Labor, among other specific provisions, directs the Commissioner of Labor to investigate "what articles are controlled by trusts, or other combinations of capital, business operations, or labor, and what effect said trusts or other combinations of capital, business operations, or labor have on production and prices," and to report to Congress. Under this direction of law plans were projected some two years ago to collect the general statistics concerning industrial combinations. Afterwards it was learned that the Industrial Commission intended covering similar ground, and the plans were abandoned. The Industrial Commission, however, determined to limit its inquiry to general matters and to recommendations for legislation, passing the following resolution relative to the statistics of trusts and combinations:

Resolved, That the Commissioner of Labor, in conformity with the organic act creating his Department, be requested to cooperate with the Industrial Commission in the investigation of the subject of trusts and industrial combinations, and to make the statistical inquiry necessary to reveal the facts as to the basis of capitalization in these combinations, and the degree of their monopoly of the domestic market, the degree of their control over the prices of products, and their influence upon wages and employment.

Accordingly the plans of the Department were perfected and the investigation undertaken as provided by law. The Industrial Commission's expert on trusts, Prof. Jeremiah W. Jenks, gave the Department the benefit of his experience and knowledge, not only in the construction of the searching schedule employed in the investigation, but in the collection of the facts called for by it. Experts of the Department were employed in the collection of the data presented, and the

tabulations were made by its force, but the analysis and di
the tables were committed to Professor Jenks. This ser
performed with judgment and impartiality.

The principal results of the present investigation woul
accurately indicated if the title given to the article had
Economic Effect of Trusts and Industrial Combinations u
and Prices." The present broad title might suggest a m
discussion of all the economic phases of these combinatio
results of the investigation may seem to justify. But th
such general discussion were sought by the agents of the I
with care and persistence and the meagerness of the mater
on some important points is due either to the inability or
ness of the managers to furnish the information. All o
secured, however meager, are presented in the text and tab
ing for whatever value they may have in the study of the q

To the officers of the combinations, who went to great t
expense to comply with the Government's request, gratefu
edgments are extended. When it is considered that this h
exceedingly difficult investigation it will be appreciated
who patriotically extended every courtesy and facility for i
success are doubly entitled to thanks. The managers of s
binations, although perfectly willing to give complete in
were unable to do so, the accounts of constituent companie
ing been transferred to the new corporation. The brief t
has elapsed since the organization of some of the combin
stood in the way of securing positive results. Furthermor
the facts considered of greatest importance it has been sim
sible to secure. On the whole, however, for the first attemp
the statistical method to the discussion of one of the leading
questions of the time, the report, while far short of an ideal
tion of the subject, must be considered as having some valu
discussion. A few years hence, when the results of expe
be more fully seen, an investigation can be made the result
can be taken as practically conclusive on many points.

The aim and scope of the investigation are sufficiently sho
analysis, but, specifically, the Department has sought to co
facts as would carry out legal instructions by showing th
course of wages and prices, the employment of labor, and ge
nomic conditions under combinations and private concerns.
points, two of the essential ones designated in law, those r
wages and prices, have been fairly well brought out.

The refusal on the part of a few managers to furnish the
tion called for, has, as a rule, been courteous and based on
thought to be good reasons. In some cases, however, the re
based on the ground that neither the Government nor the p

any concern in such matters. This idea is fast losing its force in matters where the public is vitally interested, as shown by the fact that counsel of some of the largest combinations in the country took the ground that the Government had the right to make such inquiries as those asked in this investigation, and in some notable cases warmly advised their clients to furnish the facts. I wish to thank these gentlemen for their assistance.

It should be borne in mind that not all industrial combinations are trusts in the popular sense. In fact, there are but very few real trusts in the country. The combination sometimes does not differ from an enlarged corporation. To cover the matter, however, the title "Trusts and Industrial Combinations" has been given this report.—C. D. W.]

This study of facts regarding industrial combinations embodies the results of reports made by 41 combinations. In preparing the schedule of inquiry it was necessary to make the questions general enough so that they would apply, so far as possible, to all combinations. In consequence, practically, each combination found that some of the questions did not apply to its special line of business, but in general the questions were answered as freely as could be expected. Inasmuch as the investigation was for the purpose of learning as fully as possible the effects of industrial combinations, it has been desirable to secure information regarding the various companies which entered into the combinations, covering the period preceding the organization of the combinations, as well as the statistics of the combinations themselves. In a number of instances it has not been possible to secure details regarding the companies which entered a combination, inasmuch as those companies have been dissolved and their books and records are not in the possession or under the control of the combination itself, nor readily accessible. As regards the studies of prices, of course those are largely a matter of market record, so that this difficulty has not been insurmountable in many cases, although in individual instances where market reports have not been regularly kept the apparent effect on prices could not be noted.

DATES OF FORMATION.—Twenty-four of the 40 combinations reporting as to date of organization were formed in the years 1898 and 1899; of those formed before 1898 five were organized in 1891. One was formed as early as 1865.

AMOUNT OF CAPITALIZATION.—The 39 combinations reporting as to capitalization included many of the larger ones, the total amount of stock issued being $1,351,069,525, or, if one includes the bonds in the capitalization, $1,395,550,325. The total amount of capital stock authorized was $1,518,650,000. The larger part of these combinations are those whose stock is widely scattered, although some have but few stockholders and their stock is not put regularly upon the market.

MARKETS.—Most of the combinations manufacture for market; four or five of them find their markets limited to States, while one sells to only four States of the Union.

STOCK.—So much has been said during the past two year the issue of stock by the larger combinations that it is w to note the circumstances of some of these issues before particularly the study of the facts as brought out by the inv

Some of the larger combinations are organized for the holding the stock of other corporations. Such combinati directly own the plants nor carry on, as a company, any o ness of manufacturing. That is done by the constituent c When a large company, therefore, buys up all the stock other companies and issues its own stock substantially in therefor, the total amount of stock capitalization of the cou course, thereby increased. It should, however, be understo added capital is called into existence, nor is there of nec demand for any further profits to be paid to stockholders. T of the constituent companies form the fund from which the of the holding company are paid. In other cases on the for a combination the new company buys for cash or stock, as may be, all of the plants of the uniting companies, and thes nies are then dissolved. When this form of combination is u quite possible that the total amount of capital stock of the c not increased at all; it may even be decreased.

STOCK ISSUES.—The following table shows the per cent stock issued, both common and preferred, is of that authorize one of the 39 combinations reporting on this subject. Of the numbers it should be said here that they can not be used for f a combination through the tables, as any given number c represent the same combination throughout. The numbers merely for convenience in referring to the combinations.

PER CENT OF COMMON AND PREFERRED STOCK ISSUED OF STOCK AUTHORI 39 COMBINATIONS.

Marginal number.	Per cent of stock issued of stock authorized.		Marginal number.	Per cent of stock issued of stock authorized.		Marginal number.	Per cent of s of stock a
	Common.	Preferred.		Common.	Preferred.		Common.
1	71.10	70.95	15	97.45	95.15	29	93.33
2	96.25	72.59	16	100.00	100.00	30	73.75
3	99.37	99.36	17	91.17	83.41	31	97.32
4	87.21	89.63	18	100.00	100.00	32	66.07
5	100.00	(a)	19	98.58	98.58	33	100.00
6	10.00	100.00	20	45.43	73.00	34	100.00
7	100.00	100.00	21	100.00	100.00	35	100.00
8	92.00	92.00	22	98.21	97.27	36	100.00
9	100.00	100.00	23	96.47	(a)	37	60.54
10	98.50	100.00	24	65.26	65.26	38	89.90
11	97.55	(a)	25	80.33	72.41	39	97.69
12	92.41	90.14	26	94.66	94.10		
13	98.29	(a)	27	99.96	33.80	Total.	89.50
14	100.00	100.00	28	92.54	94.63		

a None authorized.

It will be noted that in only 11 of the 39 combinations was the authorized amount of common stock in reality issued, and in only 12 was the entire amount of preferred stock issued. In a few cases the amount issued formed but a small percentage of that authorized, but the per cent of total stock issued of the total amount authorized by the 39 combinations was, as will be noted from the table, 89.50 for the common stock and 88.26 for the preferred.

The next table shows for these 39 combinations the per cent of common stock, preferred stock, and bonds of the total stock issued:

PER CENT OF COMMON STOCK, PREFERRED STOCK, AND BONDS OF TOTAL STOCK ISSUED, FOR 39 COMBINATIONS.

[One combination, reporting no bonds issued but not reporting amount of stock issued, has been excluded from this table.]

Marginal number.	Per cent of common of total stock issued.	Per cent of preferred of total stock issued.	Per cent of bonds of total stock issued.	Marginal number.	Per cent of common of total stock issued.	Per cent of preferred of total stock issued.	Per cent of bonds of total stock issued.
1	50.05	49.95	(a)	22	50.24	49.76	7.99
2	57.01	42.99	(a)	23	100.00	(a)	(a)
3	50.00	50.00	(a)	24	50.00	50.00	13.52
4	43.77	56.23	33.44	25	52.59	47.41	(a)
5	100.00	(a)	(a)	26	50.15	49.85	(a)
6	36.17	63.83	(a)	27	74.73	25.27	(a)
7	50.00	50.00	(a)	28	66.17	33.83	(a)
8	50.00	50.00	(a)	29	60.44	39.56	(a)
9	66.67	33.33	(a)	30	59.60	40.40	(a)
10	98.50	1.50	25.00	31	79.56	20.44	(a)
11	100.00	(a)	62.47	32	59.68	40.32	(a)
12	65.56	34.44	(a)	33	80.00	20.00	5.71
13	100.00	(a)	37.62	34	66.67	33.33	(a)
14	50.00	50.00	(a)	35	50.00	50.00	57.00
15	55.14	44.86	(a)	36	54.24	45.76	4.34
16	57.58	42.42	(a)	37	66.51	33.49	(a)
17	56.74	43.26	(a)	38	100.00	(a)	c 91.33
18	55.56	44.44	(b)	39	50.00	50.00	(a)
19	50.00	50.00	(a)				
20	55.45	44.55	(a)	Total	57.30	42.70	d 3.53
21	33.33	66.67	(a)				

a None issued.
b Not reported.
c Including debentures.
d Thirty-eight combinations reporting.

The custom of issuing preferred stock in lieu of bonds has become prevalent of late years. In this table it will be noted that when a large amount of bonds has been issued, in most cases either the combination has no preferred stock or its amount is very small. One noteworthy exception, No. 35, shows the preferred and common stock issued in equal amounts and bonds issued to a still greater amount. It is probable that the bonds which have been issued in connection with preferred stock were issued either to supply some ready cash or to take the place of bonds of constituent companies, which had already been issued.

The preferred stock has, of course, ordinarily, the same precedence over common stock as regards the claim upon the profits as have bonds; while, where preferred stock is issued in lieu of bonds, failure to earn the fixed amount required to meet the annual obligations does

not throw the company into the hands of a receiver, but the hands of its stockholders and directors.

CONDITIONS OF PREFERRED STOCK.—In the case of all tions under consideration (33 having reported on this sub ferred stock has the same voting privileges as the commo

One of these combinations pays 5 per cent on its pre seven, 6 per cent; nineteen, 7 per cent; four, 8 per cent, per cent. In one case a combination pays 8 per cent on its preferred stock issued and 6 per cent on the other half

In three cases preference is especially mentioned also of liquidation, the preferred shareholders being entitled t value of their stock before any of the proceeds are paid t common stock. It is probable that this provision holds in as well, but that returns were not fully made in this parti combinations.

In twenty-four instances dividends on preferred stock are the common stock not receiving any dividends until all t dends on preferred stock have been met. While in ma combinations the preferred stock has been issued for purpos ment with the intention that they shall take the place of b be noted that the rate of interest mentioned is consider than that paid on bonds of stable companies of the preser even higher than that paid on bonds issued by these same

The preceding table shows also that in 39 combination cent of the entire stock issued was common stock, 42.70 while the amount of bonds issued by 38 combinations rep but 3.53 per cent of the total stock. A comparison of these f those of the railways of the United States as presented in for 1898 of the statistician of the Interstate Commerce Com which the amount of funded debt is greater than that of s 49.81 per cent and funded debt 50.19 per cent of the entire tion), shows how great the change has been in the plan of these industrials from that formerly followed in the orga railways.

BONDS.—Out of 39 combinations which reported on the bonds but 10 had issued any, 2 were authorized to issue had not done so, while 27 reported that they were not aut issue bonds. The amount of bonds authorized for the 12 co was $56,161,000, whereas the actual amount issued and as $44,480,800, this latter amount including in one case over $3 bonds assumed with the plants included in the combination i the amount of bonds reported as authorized. It is common of many of the combinations that have issued preferred stoc the issuance of bonds excepting by special vote of the stockh

many cases, too, the debts of constituent companies are all paid before they enter the combination. This change of the policy of the combinations, which resulted in the paying off of large amounts of indebtedness on the part of the constituent members before the combinations were formed, made naturally a very material difference in the methods of doing business and in the relations of these business establishments to the banks. Many banks that for a long period of time had been substantially carrying business enterprises were at the time of the reorganizations paid off entirely, and throughout many sections of the country the banking business was thereby put upon a much more stable basis than had been the case for many years, though in other cases they lost good customers. On the other hand, in the disposition of the securities of the combinations, many of the larger banks, especially in the larger cities, became stockholders in the combinations, and thereby some invested considerable of their capital in the shares of the combinations or received them as collateral. While in the investigation it was not possible to get any definite figures regarding these two modes of procedure in the transfer of the business of the constituent companies to the combinations, there can be little doubt that the country banks found in very many cases their old debts paid off rather unexpectedly, and found likewise that they had lost regular borrowers, whereas, on the other hand, the larger city banks sometimes received either directly as property or indirectly as collateral a large proportion of shares of stock of some of the newer industrials which they have found it difficult to dispose of. It is a matter for regret that the statistics of this subject have not as yet been secured to any material extent.

Two of the 10 combinations which have issued bonds pay 5 per cent interest thereon, 6 of them pay 6 per cent, 1 pays 6 per cent cumulative on debenture bonds and 5 per cent on others, and 1 pays 6 per cent on bonds issued and makes no report as to rate of interest on bonds assumed. In the majority of cases these bonds have apparently been issued directly in exchange for property, only 4 combinations reporting that they have sold bonds for cash. The bonds sold for cash amounted to $19,659,000, whereas those exchanged for property amounted in all to $24,764,500. In addition $57,300 in bonds were issued for purposes not reported.

Holdings of Stock.—It has been frequently true that the affairs of the larger corporations have been directed almost solely by a few of the larger stockholders, even when the corporations were public in their nature and their shares were sold on the stock exchange and distributed widely among thousands of shareholders. In not a few instances it has been asserted that one individual has held a controlling number of shares in some of the great corporations. The following table gives the percentages of preferred and common stock held by the

largest single holder and by the 5 largest holders in the 24 combinations reporting on this subject:

PER CENT OF STOCK HELD BY LARGE HOLDERS, FOR 24 COMBINATIONS.

Marginal number.	Common stock.		Preferred stock.		Marginal number.	Common stock.		Preferred stock.	
	Per cent held by the largest holder.	Per cent held by five largest holders.	Per cent held by the largest holder.	Per cent held by five largest holders.		Per cent held by the largest holder.	Per cent held by five largest holders.	Per cent held by the largest holder.	Per cent held by five largest holders.
1	4.60	17.82	6.03	18.09	14	19.61	53.21	15.94	55.11
2	12.99	38.33	18.09	36.84	15	12.51	35.58	14.53	45.17
3	4.74	13.68	4.03	8.21	16	4.92	20.87	9.03	17.94
4	4.16	14.14	4.60	16.43	17	22.44	56.23	20.80	36.15
5	(a)	52.55	(b)	(b)	18	14.87	42.70	13.03	32.11
6	19.62	67.94	27.83	72.04	19	9.42	19.37	8.07	17.70
7	24.53	43.67	24.53	43.67	20	91.92	94.85	94.88	96.41
8	1.78	3.01	1.78	3.01	21	84.56	98.52	87.03	98.35
9	24.40	55.85	13.00	45.20	22	19.82	35.33	16.40	28.96
10	2.71	10.71	4.06	10.42	23	27.86	64.05	(b)	(b)
11	10.13	33.47	11.98	32.72	24	10.22	20.57	30.37	41.90
12	22.65	49.57	31.04	53.14					
13	11.65	35.61	(b)	(b)	Total	c 19.71	32.91	16.81	27.78

a Not reported. b None issued. c Twenty-three combinations reporting.

Of course these figures are not sufficient to determine whether or not in a specified case a certain number of shareholders can absolutely control the affairs of the corporation by the election of directors. That can not be known without knowing the details of the management of the separate corporations. In many instances the holders of a minority of stock can readily enough elect directors and control the corporation. In the two cases given in the table, in which a large majority of the stock, both common and preferred, is held by one person, it is proper to say that this person is in those cases a corporation, one of those that have been formed for the purpose chiefly of holding the stocks of constituent companies which come into the organization. These are, therefore, not to be considered typical cases or representative of the power of single individuals. So far as the 5 largest shareholders are concerned, it appears that in only 8 combinations out of the 24 reporting is a majority of the common stock held by them, and in only 5 is a majority of the preferred stock so held.

It is probably true, however, that in many more cases, although the 5 largest holders may actually own but a minority of the stock, they are still able, substantially, to control the corporation. The figures nevertheless seem to make it perfectly clear that many of the opinions of the public regarding the shareholding in these corporations are at fault, and that the actual holdings of the largest stockholders are often much less than has been popularly supposed.

CONSIDERATION FOR STOCK ISSUE: COMMON STOCK.—Of much greater significance is the consideration for which stock has been issued. The belief has been common that a large part of the stock issued by the industrial companies has not had back of it substantial

values, but that most of it was water. From the returns received it appears that of the combinations reporting, out of more than 30 only 9 reported the common stock issued for cash; in only one case was cash the only consideration mentioned. Usually the consideration was given as "property," or frequently as "property, franchises, and good will;" in two instances "good will" and in one instance "good will, etc.," was given as the consideration. It appeared in many of the combinations that the common stock was issued to some extent for good will. In several cases apparently no distinction had been made between common and preferred stock in this particular, but both had been issued in lump sums for "property, franchises, and good will," without any effort being made by the organizers of the company to draw the distinction clearly. In one case it was reported that common stock was issued as a bonus in connection with the preferred stock. In several instances, too, the stock of the combination was issued in exchange for the stock of the constituent companies at different rates of exchange.

Consideration for Stock Issue: Preferred Stock.—As regards the preferred stock the situation seems somewhat different. In 14 cases preferred stock was issued for cash. In the entire list the expression "good will" as the consideration for the issuance of stock appears much less frequently, and where good will is expressed as one of the considerations it is regularly associated with franchises and property. In these cases apparently no distinction has been made in the consideration for which preferred and common stocks were issued.

As previously stated, the voting privileges of preferred stock are the same as those of common stock in the 33 combinations reporting. This means substantially an equal share in all particulars in the election of the executive and managing officers, inasmuch as out of 38 of the combinations reporting, the executive or managing officers are appointed by the board of directors in 35 cases and elected by the stockholders in only 3.

Stock Watering.—The following table, showing the per cent of stock issued represented by the original cost of the plants, the cost of reproducing plants, and the working capital of the combinations, throws considerable light upon the question of stock watering, although it would have been better could information have been secured from more of the combinations on this special subject. In many cases the combinations did not have and could not secure the records of the plants entering the combination. Particularly was this true when the combinations had been in existence for several years. Under those circumstances the cost of building the plants, of course, was not obtainable.

In practically all of the same combinations it was of course likewise difficult, if not impossible, to secure any accurate figures with refer-

ence to the cost of the plants now actively operated by the combination. The cost of reproduction had, naturally, to be an estimate. In many instances the managers were unwilling to make an estimate as to the cost of building plants of a named capacity without securing definite figures from experts; but in other cases where plants had been built within a comparatively short time, or where there was a general figure which was common in making estimates for building, such estimates were furnished. The result appears in the following table:

PER CENT OF STOCK ISSUED REPRESENTED BY ORIGINAL COST OF PLANTS, BY COST OF REPRODUCING PLANTS, AND BY WORKING CAPITAL, FOR 24 COMBINATIONS.

Marginal number.	Per cent of original cost of constituent plants of stock issued.	Per cent of original cost of active plants of stock issued.	Per cent of cost of reproducing active plants of stock issued.	Per cent of working capital of stock issued.	Per cent of working capital of cost of reproducing active plants.
1	6.18	6.18	6.18	2.82	45.56
2	(a)	(a)	(a)	24.34	(a)
3	(a)	(a)	(a)	13.61	(a)
4	200.00	200.00	250.00	100.00	40.00
5	63.83	63.83	(a)	(a)	(a)
6	48.00	48.00	60.00	8.00	13.33
7	15.76	15.76	(a)	.76	(a)
8	100.00	100.00	(a)	.67	(a)
9	125.00	(a)	(a)	38.98	(a)
10	(a)	(a)	38.20	5.46	14.29
11	91.16	90.59	93.91	16.26	17.32
12	(a)	(a)	60.61	12.12	20.00
13	29.04	(a)	(a)	13.48	(a)
14	(a)	(a)	26.01	20.00	76.90
15	(a)	(a)	(a)	13.33	(a)
16	(a)	(a)	(a)	59.24	(a)
17	30.65	30.65	45.97	61.29	133.33
18	(a)	(a)	26.93	47.28	175.57
19	71.24	66.92	86.35	58.28	6.75
20	(a)	(a)	50.50	30.30	60.00
21	(a)	(a)	67.26	20.59	30.62
22	61.86	61.86	75.42	6.44	8.54
23	(a)	(a)	36.56	48.67	133.11
24	(a)	(a)	7.12	10.40	145.95
Total	b 55.58	c 56.92	d 48.12	e 16.30	d 35.53

a Not reported.
b Twelve combinations reporting.
c Ten combinations reporting.
d Fifteen combinations reporting.
e Twenty-three combinations reporting.

The per cent of the original cost of the plants entering into the combinations of the stock issued by the 12 combinations reporting was 55.58. The per cent of the original cost of the active plants of the combinations of the stock issued in the 10 combinations reporting was 56.92; whereas the estimated cost of reproduction of plants of the same capacity as those actively engaged in manufacturing was 48.12 per cent of the capital stock in the case of the 15 combinations reporting.

This is perhaps not the place to go far into a discussion of the proper basis of capitalization for manufacturing establishments. Some of the States in their laws, and many people in the discussion of the question, assume that there should be a capitalization of only the value of the plants, presumably their reproduction value or their cost of building, together with any running capital that may need to be kept on hand

in the form of cash or cash credits. Many business men, on the other hand, are inclined to believe that the earning power of the plants should be the basis of capitalization, laying thus much greater emphasis upon good will, the value of brands or patents, and the ability of the manager, than do those who take opposite views. If an establishment can pay dividends of, let us say, 6 per cent on a capitalization of $1,000,000, they would say, "Let it be capitalized at $1,000,000, even though the plants could be reproduced at a cost of $200,000."

It should be borne in mind, however, that if the contentions of many people regarding the power of the large industrial combinations to raise prices beyond competitive rates are justified, this principle of capitalization according to earning capacity would mean simply capitalization of the power of monopoly. This might, of course, be covered by the expressions "good will," "business experience," "business ability," or what not.

The table immediately preceding shows some facts regarding the few combinations from which it was possible to secure reports regarding the original cost of their plants and the estimated cost of reproducing their active plants, the amount of their working capital, etc. While one of the combinations, No. 4, capitalized over 30 years ago, reports that the cost of reproducing its active plants would be two and one-half times the par value of the stock issued, and its working capital would be 40 per cent of this cost of reproduction, most of the establishments are of quite a different type. For example, No. 14 reports that its active plants could be reproduced at a cost equal to about one-fourth its capital stock and that its working capital is 20 per cent of its stock issue. No. 24 shows the percentage of values of capital stock as very much lower still. Assuming these totals to be representative of the combinations, it will be seen that, taking the working capital and the cost of reproduction of the active plants together, the capital actually invested at its cash value would amount to 64.42 per cent of the nominal capitalization. If in place of the cost of reproducing the active plants the original cost of those plants be substituted the above per cent will be increased to 73.22. It should be recalled, however, that this total includes the very low capitalization of two or three establishments, especially that of No. 4, which makes the total of stock issued for good will very much less than it otherwise would be.

It is probably true also that the establishments reporting do not represent, on the whole, the most speculative of the larger combinations whose securities are placed upon the market, and that in consequence the result shown here is much more favorable as regards stock watering than the average of industrials dealt in on the stock exchange. If we grant that such is the case, the table shows that some of the more conservative larger industrial combinations are capitalized at a good deal more than cost value, whether or not that is seriously prejudicial

to the interests of either the stockholders after the fi
the public at large who are compelled to pay dividends o
of so-called watered stock.

It is perhaps of importance to emphasize again the q
working capital involved in connection with these n
establishments, inasmuch as most of those who argue
watering ignore entirely the fact that every successful n
establishment must have in addition to the working plan
ing capital, which often needs to be a large percentage e
value of the plants themselves. Under those circumstanc
the capitalization should be large enough to cover this wo
as well as the value of the plants.

REPORTS TO STOCKHOLDERS.—It is commonly believe
the chief evils of large corporations is the lack of respons
directors to the stockholders. In many cases the directo
positions for a series of years, and practically never make
are calculated to give to the individual stockholders much
actual methods of management. The returns from this i
would seem, on the whole, to justify this general view.
corporations replying to a question regarding reports, c
habit of giving quarterly reports to the stockholders;
reports when called for; two stated that no reports ar
the remainder make reports annually. On the other hand,
ally true that the nature of the reports is largely in the d
the directors themselves. One company states that its an
covers "every essential point pertaining to business," b
company which has comparatively few stockholders and is
vate in its nature. In one case the report, if fairly made,
the actual situation, the statement being that "assets, liab
ings, and profits" are given. Another company speaks o
the "comparative conditions of cost of materials, of transp
labor, and so on," but nearly all simply state that they r
"the general affairs of the company," or the "general c
the business," or "the financial condition," etc., without
details, the report evidently being what the directors wish

PROMOTERS' PROFITS.—Little light was thrown by the in
upon the subject of the profits of promoters. Sixteen co
including many of the larger ones, failed to furnish any
upon this point. In 20 instances it was reported that n
paid promoters; in 3 cases amounts, running in one case a
000 in common stock, were spoken of as the profits of the
but the answers were not so numerous that a general co
garding their profits can safely be drawn.

SAVINGS FROM COMBINATION.—It is usually the case that a

issued to manufacturers with the intention of persuading them to come into a combination sets forth various savings that can be made by combination—savings in salaries and wages, in cost of advertising, in transportation, etc.

ADVERTISING.—Generally speaking, in the combinations reporting in this investigation there was little definite information given regarding the savings or losses in connection with advertising. In one case the statement was made that three or four times as much was spent in advertising by the combination as had been spent by the constituent companies. In this case the combination is extending its business widely, even into foreign countries, where it was not profitable for the smaller establishments to go. In a few instances the specific percentage of the cost of advertising saved was given, this per cent being from about 40 up to 85, or even more. In other cases there was no saving whatever from this source.

TRANSPORTATION.—To the question whether the combination had been able to make savings in cost of transportation, owing to lower rates given to the combination for the same goods and distances, few replied. In 5 cases the statement was distinctly made that no lower rates had been secured. One company stated that 1 per cent of the cost of transportation was saved, and in several others amounts running into the thousands of dollars were reported as the estimated saving per year from this source.

DISCRIMINATING RATES.—To the question as to whether any discriminating rates had been received, 14 combinations made no report whatever. As regards discriminating rates, one corporation stated that it had an arrangement with some companies which allowed the shipping of net weights instead of gross weights, whereas 26 distinctly stated that they received no such favors. To the question as to whether any saving was made by shipping from the nearest plants, the replies were various. Five received no benefit in this way. Twenty-seven of the combinations failed to answer, but the others were all of them of the opinion that there was a considerable saving from this source. In one case the estimate was put at from $500,000 to $1,000,000 per annum; in another the savings on advertising and transportation economies were estimated at considerably over $500,000; another mentioned the sum of $400,000 as the savings from various economies. Naturally those combinations whose products are bulky and heavy succeeded in making the largest percentage of saving from this source.

PATENTS.—Out of the 27 combinations reporting as to capital payments allowed constituent companies on account of patents, 25 reported that nothing was allowed, one reported an allowance of common stock, and one reported allowances of both common and preferred stock and

over $200,000 in cash. Twenty-six combinations reported t on account of patents was allowed the constituent compar combinations made no report on this subject.

ARRANGEMENTS WITH MAKERS OF MACHINERY.—In ans inquiry as to whether the industrial combinations had arr with manufacturers of machines to furnish them only to th tions, and not to their competitors, 33 out of 41 combinatio ally stated that this was not their practice, the others makin Three combinations held an interest in factories that machines needed by them, and one reported that "compa stocks were held manufactured almost everything used in ness." It is possibly true that in certain cases in which thi was not answered there may also have been some arrangem kind, inasmuch as specific testimony offered elsewhere seem it clear that this practice prevails. In 12 cases the combinat or some of its plants, manufactured all or part of the machi by it. Here, again, it is perhaps possible that these manu corporations were taken into the combination with the tho in this way a certain limitation could be placed upon the n machines produced for competitors. No such evidence, appears directly from this investigation.

SAVING IN QUANTITY OF MATERIAL.—To the question as to owing to improved methods of production, less material pe product was needed under the combination than had been n the separate smaller plants existing before the combination w a few were able to give definite answers. In 5 cases it was that less material per unit of product was needed, the amount from 2 or 3 to 5 per cent less, and in one case it was 10 per c Sixteen of the combinations answered the question directl negative.

PURCHASE OF RAW MATERIAL.—A few of the combinations a considerable saving from more advantageous buying of t material. In one a saving of 1 per cent was mentioned; in 3 per cent of the gross cost; in still a third, 10 per cent; mentioned a round saving of $500,000 per year, while other stated that a large sum or a small sum was saved. The ma those reporting, however, did not answer this question specif

CLOSING OF PLANTS.—Seventeen of the combinations repo some of the plants which have been taken into the org have been closed, whereas 16 stated that none of their pla been closed. Of those organizations which have closed plan however, convey the impression that there has been no les the output owing to the closing of plants, but that the pla been closed for purposes of economy in management, and n

for the purpose of limiting the output. For example, the statement is made that plants in separate buildings have been put together into one building, at times with an increased capacity. Likewise plants have been removed from less advantageous to more advantageous situations. One combination reports that useless and worn-out plants were from time to time abandoned and more available ones erected, the capacity being constantly increased. The proportion of the capacity of plants closed to the total manufacturing capacity of the combinations has varied from 1 per cent to as high as 25 per cent.

INEFFICIENCY THROUGH CARELESS MANAGEMENT.—Most of the more ardent advocates of the competitive system are of the opinion that the pressure from competition is necessary in order to secure the most efficient work and the greatest care in saving waste. To the question as to whether there had been any loss of efficiency apparent in the combinations through carelessness brought about by the lack of competition and the certainty of profits, the answers were quite general. Twenty-one made the statement that no such loss of efficiency appeared, while 7 others went so far as to assert positively that there had been a distinct increase in efficiency. The reason for this was stated to be the competitive cost system. It has been explained that the managers of the different plants working under the combination are each compelled to keep careful records of the cost of production in his own plant, and that the various plants are then frequently compared one with the other as regards their efficiency in this particular. In this way, without there being any competition among the different plants so far as the marketing of the product is concerned, there is brought about a most vigorous competition among them in manufacturing, a competition more searching in its nature than any that could come from entirely independent establishments, owing to the fact that the exact cost is known and the exact degrees of difference in efficiency can be measured. If one may judge from the reports furnished, this factor of loss of efficiency through certainty of profits has not appeared to any noteworthy extent in any of the large combinations reporting. The central office is able to keep accurate note of the efficiency of the different plants in most cases, inasmuch as frequent reports are required—in 18 cases daily, in other cases weekly or monthly; and most of the combinations, in addition to these regular reports sent in from the different establishments themselves, are also in the habit of sending special inspectors to examine the work done in the different plants, and to make in this way personal reports, as well as personal suggestions, to the superintendents of the different establishments.

PROFITS.—Some of the older industrial combinations, whose dividends have been published in the trade journals and elsewhere, and are well known to the public, make high profits. For example, the

dividends of the Standard Oil Company and those of Sugar Refining Company have been as follows:

DIVIDENDS PAID BY THE STANDARD OIL COMPANY, 1882 T

[Data for 1882 to 1898 are from the Preliminary Report on Trusts and Industrial C Industrial Commission, p. 99.]

Year.	Dividend (per ct.).	Year.	Dividend (per ct.).	Year.	Dividend (per ct.).	Y
1882	5¼	1887	10	1892	12.21	1897
1883	6	1888	11¼	1893	12	1898
1884	6	1889	12	1894	12	1899
1885	10¼	1890	12	1895	17	
1886	10	1891	12	1896	31	

DIVIDENDS PAID ON THE COMMON STOCK OF THE AMERICAN SUGAR PANY, 1891 TO 1899.

Year.	Dividend (per ct.).	Year.	Dividend (per ct.).	Year.	Dividend (per ct.).	Ye
1891	8	1894	12	1896	12	1898
1892	9	1895	12	1897	12	1899
1893	22					

The returns given in the schedules of the present invest considerably, but in most cases as yet the profits have not although, as will be recalled, the stock has often been iss extent for good will. In most of the newer organizations, t in 1898 and 1899, from which reports have been received, dividends have been paid upon the preferred stock, bu have not yet been declared on the common. In combinatio stock has been all common, a fair dividend has been paid. considers that a considerable amount of stock has been issu will, and not as against actual property invested, these not be considered unfavorable from the point of view of nation. The special study of the effect of combinations will show somewhat more clearly their probable effect up

In addition to the dividends that have been declared, se combinations have also, out of the profits, set aside a surp expended considerable sums in the enlargement of their pl combinations, for example, 3 per cent of the total capital s has been used out of the profits in the enlargement of whereas in one of the older combinations as high as 20 p been so employed. In the case of 4 combinations making the amount expended from the profits averaged 5 per cent case was more than 8 per cent of the amount it would h reproduce the plants. Sixteen combinations report tha laid up a surplus of 7.27 per cent of the total stock issu instance the per cent amounts to more than 38, in anothe 30. Eight combinations giving an account of the surp

cost of reproducing their plants furnish the information that about 15 per cent of the cost of reproducing the plants has been laid aside in surplus out of the profits. The two tables following give the details regarding the reports made on these last-mentioned special subjects. It should be kept in mind, also, that in reckoning these profits and this surplus a fair allowance has generally been made for annual depreciation. The amount varies in the different reports, sometimes being mentioned in terms of percentages, sometimes in the lump sum; but it is evident that the methods of bookkeeping adopted by those establishments which have made returns are conservative.

PER CENT OF PROFITS EXPENDED IN ENLARGEMENT AND IMPROVEMENT OF PLANTS OF TOTAL STOCK ISSUED, OF ORIGINAL COST OF CONSTITUENT PLANTS, AND OF COST OF REPRODUCING PLANTS, FOR 6 COMBINATIONS.

Marginal number.	Per cent of profits expended in enlargement and improvement of plants of—		
	Total stock issued.	Original cost of constituent plants.	Cost of reproducing plants.
1	1.58	(a)	(a)
2	20.00	10.00	8.00
3	8.89	(a)	(a)
4	.75	(a)	2.80
5	1.73	2.42	2.00
6	6.13	9.91	8.13
Total	3.00	b 6.46	c 4.99

a Not reported. b Three combinations reporting. c Four combinations reporting.

PER CENT OF SURPLUS OF TOTAL STOCK ISSUED, OF ORIGINAL COST OF CONSTITUENT PLANTS, AND OF COST OF REPRODUCING PLANTS, FOR 16 COMBINATIONS.

Marginal number.	Per cent of surplus of—			Marginal number.	Per cent of surplus of—		
	Total stock issued.	Original cost of constituent plants.	Cost of reproducing plants.		Total stock issued.	Original cost of constituent plants.	Cost of reproducing plants.
1	3.84	(a)	(a)	10	11.18	(a)	42.99
2	.42	(a)	(a)	11	10.96	(a)	(a)
3	10.00	5.00	4.00	12	.19	(a)	(a)
4	38.18	30.54	(a)	13	7.02	(a)	26.06
5	3.38	(a)	8.83	14	5.64	7.92	6.53
6	29.50	(a)	(a)	15	.002	(a)	.004
7	8.14	(a)	(a)	16	12.41	20.06	16.46
8	7.69	(a)	12.70				
9	4.14	14.25	(a)	Total	7.27	b 16.17	c 14.93

a Not reported. b Five combinations reporting. c Eight combinations reporting.

THE FACTOR SYSTEM.—This investigation, as well as some others that have been undertaken, does not seem to warrant the opinion which has been at times expressed that the combinations had their tendency toward monopoly strengthened by selling their products through factors whose connection with the combination was such that it was enabled to keep practically entire control of the market and to fix the price. About half of the combinations reporting sell direct to consumers. Two combinations report that while middlemen were employed by constituent companies none are now employed. One

combination reports a slight decrease in the number
siderable decrease. Only two combinations specify the
annually—$15,000 in one instance and $200,000 in the o

WAGES.—Next in importance to the effect of industrial
upon prices, if indeed not equally important, is thei
wages. Owing to the fact that the books of many
rations before they entered into the combinations are r
it has been possible to obtain complete returns in comp
cases. Nevertheless, when returns have been made, t
the whole, been so complete and definite that the resul
of note, even though the number of establishments wil
one in placing too much reliance upon conclusions as
general rule. The following table shows for each of 13
the percentage of employees paid each classified rate
week, before and after the formation of the combin
employees have been classed as skilled and unskilled labo
and others, superintendents, foremen, and traveling sal
excluded.

PER CENT OF EMPLOYEES PAID EACH CLASSIFIED RATE OF WAGES PER
AND AFTER THE FORMATION OF THE COMBINATION, FOR EACH OF 13 C

Marginal number.	Rate of wages paid per week.	Skilled laborers.		Unskilled laborers.		Clerks.	
		Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	Under uniting companies.	Unde combination.
1	Under $5	8.84	10.53	12.82	13.46	.....	1.6
	$5 or under $6	4.28	3.94	12.82	6.73	3.28	3.3
	$6 or under $7	2.51	2.09	14.53	23.08	4.92	4.1
	$7 or under $8	3.82	7.40	27.35	25.00	5.74	6.6
	$8 or under $9	4.38	4.34	3.42	9.61	5.74	7.5
	$9 or under $10	5.12	4.82	16.24	17.31	15.57	11.6
	$10 or under $15	39.39	36.34	12.82	4.81	36.88	37.5
	$15 or under $20	26.54	25.56	.....	.....	18.85	17.5
	$20 or under $25	5.12	4.98	.....	.....	4.92	5.8
	$25 or under $30	.....	.....	.....	.....	2.46	2.5
	$30 or under $35	.....	.....	.....	.....	1.64	1.6
	$35 or under $40	.....	.....	.....	.....	.....	.....
	$40 or under $45	.....	.....	.....	.....	.....	.....
	$45 or under $50	.....	.....	.....	.....	.....	.....
	$50 or over	.....	.....	.....	.....	.....	.....
	Total	100.00	100.00	100.00	100.00	100.00	100.0
2	Under $5	.....	.....	1.39	.95	2.04	3.0
	$5 or under $6	.....	.....	.83	1.23	1.02	2.2
	$6 or under $7	.....	.....	3.48	.55	3.06	.7
	$7 or under $8	.....	.....	2.78	1.36	2.04	3.7
	$8 or under $9	.....	.23	16.55	25.75	3.06	2.2
	$9 or under $10	15.44	9.01	47.71	64.85	3.06	2.2
	$10 or under $15	65.32	76.68	27.26	5.31	29.59	28.7
	$15 or under $20	16.39	10.62	.....	.....	30.61	28.7
	$20 or under $25	2.61	2.54	.....	.....	11.23	14.3
	$25 or under $30	.....	.....	.....	.....	5.10	6.0
	$30 or under $35	.....	.46	.....	.....	.....	2.2
	$35 or under $40	.24	.23	.....	.....	6.13	2.2
	$40 or under $45	.....	.23	.....	.....	.....	.7
	$45 or under $50	.....	.....	.....	.....	3.06	1.5
	$50 or over	.....	.....	.....	.....	.....	.7
	Total	100.00	100.00	100.00	100.00	100.00	100.0

PER CENT OF EMPLOYEES PAID EACH CLASSIFIED RATE OF WAGES PER WEEK BEFORE AND AFTER THE FORMATION OF THE COMBINATION, FOR EACH OF 13 COMBINATIONS—Continued.

Marginal number.	Rate of wages paid per week.	Skilled laborers.		Unskilled laborers.		Clerks.		Others (not including superintendents, foremen, and traveling salemen).	
		Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	Under uniting companies.	Under combination.
3	Under $5	.....	.....	3.55	4.51	.....	5.44	1.72	4.34
	$5 or under $6	.....	.....	.10	2.64	1.54	2.04	.....	1.74
	$6 or under $7	.....	.....	16.73	14.81	.....	6.12	1.72	17.39
	$7 or under $8	.....	.....	37.04	28.25	3.08	4.08	5.17	20.00
	$8 or under $9	.....	.....	18.32	18.47	33.84	12.25	1.72	17.39
	$9 or under $10	.....	.22	24.26	29.49	.....	3.40	10.35	2.61
	$10 or under $15	87.30	86.59	.....	1.83	49.23	29.93	63.80	14.78
	$15 or under $20	11.62	12.41	.....	.....	9.23	10.21	8.62	6.09
	$20 or under $25	1.08	.56	.....	.....	1.54	6.12	.....	6.09
	$25 or under $30	.....	.22	.....	.....	.....	7.49	3.45	3.48
	$30 or under $35	.....	.....	.....	.....	1.54	4.08	3.45	1.74
	$35 or under $40	.....	.....	.....	.....	.....	2.72	.....	.87
	$40 or under $45	.....	.....	.....	.....	.....	2.04	.....	.87
	$45 or under $50	.....	.....	.....	.....	.....	2.72	.....	.87
	$50 or over	.....	.....	.....	.....	.....	1.36	.....	1.74
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
4	Under $5	.....	.....	5.50	5.53	.....	.....	.....	.....
	$5 or under $6	.....	.....	9.00	9.05	1.49	1.64	.....	.....
	$6 or under $7	.....	.....	5.00	5.02	1.49	1.64	.....	.....
	$7 or under $8	.....	.....	7.50	7.54	1.49	1.64	.....	.....
	$8 or under $9	.....	.....	6.50	6.53	.....	.....	.....	.....
	$9 or under $10	4.06	4.12	26.00	26.13	8.95	9.84	.....	.....
	$10 or under $15	26.90	27.32	40.50	40.20	16.42	18.03	.....	.....
	$15 or under $20	54.31	55.15	.....	.....	25.37	27.87	100.00	100.00
	$20 or under $25	7.61	7.73	.....	.....	13.43	14.75	.....	.....
	$25 or under $30	1.52	1.55	.....	.....	17.91	18.03	.....	.....
	$30 or under $35	1.02	1.03	.....	.....	2.99	1.64	.....	.....
	$35 or under $40	2.54	1.03	.....	.....	2.99	.....	.....	.....
	$40 or under $45	.51	.52	.....	.....	4.48	3.28	.....	.....
	$45 or under $50	1.02	1.03	.....	.....	2.99	1.64	.....	.....
	$50 or over	.51	.52	.....	.....	.....	.....	.....	.....
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
5	Under $5	.....	.....	.33	1.22	5.00	2.40	.....	2.57
	$5 or under $6	.....	.....	.71	.51	7.50	.80	.....	10.25
	$6 or under $7	.....	.....	.87	.66	2.50	2.40	7.41	5.12
	$7 or under $8	.....	.....	2.01	1.78	5.00	3.20	.....	.....
	$8 or under $9	.....	.....	3.37	1.78	2.50	10.40	.....	.....
	$9 or under $10	2.20	.....	19.66	6.51	10.00	.....	.....	2.57
	$10 or under $15	38.77	35.24	68.87	81.99	15.00	35.20	44.45	43.59
	$15 or under $20	42.73	56.15	4.07	5.55	32.50	25.60	11.11	17.95
	$20 or under $25	13.22	8.61	.11	.....	12.50	4.80	22.23	5.12
	$25 or under $30	3.08	.....	.....	.....	7.50	4.80	3.70	2.57
	$30 or under $35	.....	.....	.....	.....	.....	5.60	.....	2.57
	$35 or under $40	.....	.....	.....	.....	.....	2.40	3.70	2.57
	$40 or under $45	.....	.....	.....	.....	.....	.....	3.70	.....
	$45 or under $50	.....	.....	.....	.....	.....	.....	.....	.....
	$50 or over	.....	.....	.....	.....	.....	2.40	3.70	5.12
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
6	Under $5	.....	.....	4.51	3.93	3.62	2.98	22.14	21.98
	$5 or under $6	.....	.....	3.49	3.21	2.66	2.19	2.29	1.65
	$6 or under $7	.....	.....	12.60	7.52	3.14	1.19	1.53	3.85
	$7 or under $8	.....	.....	35.49	13.90	1.21	1.79	.....	1.65
	$8 or under $9	.....	.....	19.73	39.72	2.41	3.58	6.87	1.10
	$9 or under $10	.....	.....	19.93	24.00	7.25	8.95	14.50	3.85
	$10 or under $15	60.73	57.21	4.25	7.72	27.78	30.82	13.74	25.82
	$15 or under $20	25.80	24.31	.....	.....	20.29	21.47	18.32	17.03
	$20 or under $25	7.20	10.23	.....	.....	11.35	9.74	6.87	7.69
	$25 or under $30	2.94	3.11	.....	.....	4.83	3.98	1.53	6.04
	$30 or under $35	1.32	1.58	.....	.....	4.59	2.78	4.58	2.20
	$35 or under $40	.27	1.64	.....	.....	3.38	2.98	3.05	3.29
	$40 or under $45	.71	.38	.....	.....	1.93	1.59	.....	.....
	$45 or under $50	.38	.56	.....	.....	1.45	1.19	.....	1.10
	$50 or over	.65	.98	.....	.....	4.11	4.77	4.58	2.75
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

PER CENT OF EMPLOYEES PAID EACH CLASSIFIED RATE OF WAGES PER W
AND AFTER THE FORMATION OF THE COMBINATION, FOR EACH OF 13 CO
Continued.

Marginal number.	Rate of wages paid per week.	Skilled laborers.		Unskilled laborers.		Clerks.		
		Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	
7	Under $5	.....	.....	54.99	63.06	5.81	4.63	
	$5 or under $6	.....	.....	13.25	11.24	6.26	6.53	
	$6 or under $7	.....	.....	15.20	10.26	7.01	8.43	
	$7 or under $8	.....	.....	9.92	9.39	6.26	7.25	
	$8 or under $9	1.69	1.13	5.81	5.31	8.35	8.43	
	$9 or under $10	21.42	21.22	.83	.65	8.64	6.41	
	$10 or under $15	64.15	65.08	.....	.09	25.63	28.62	
	$15 or under $20	10.58	10.51	.....	.....	15.65	14.73	
	$20 or under $25	1.22	1.34	.....	.....	9.09	8.55	
	$25 or under $30	.61	.49	.....	.....	4.02	3.80	
	$30 or under $35	.22	.20	.....	.....	2.39	1.31	...
	$35 or under $40	.....	.03	.....	.....	.89	.95	
	$40 or under $45	.11	.....	.....	.....	.....	.24	...
	$45 or under $50	.....	.....	.....	.....	.....	.12	...
	$50 or over	.....	.....	.....	.....	.....	.....	...
	Total	100.00	100.00	100.00	100.00	100.00	100.00	10
8	Under $5	.....	.....	6.52	2.96	2.20	.....	
	$5 or under $6	.....	.....	1.03	1.50	.....	10.00	...
	$6 or under $7	.....	.....	15.40	6.61	4.39	6.15	
	$7 or under $8	.....	.....	22.13	8.09	1.10	.....	
	$8 or under $9	.....	.....	16.57	20.23	4.39	1.54	
	$9 or under $10	.....	.....	24.36	24.69	13.19	.....	2
	$10 or under $15	50.98	21.61	13.99	35.92	32.97	26.16	2
	$15 or under $20	22.52	32.73	.....	.....	30.77	27.69	2
	$20 or under $25	15.90	20.61	.....	.....	4.39	6.92	...
	$25 or under $30	3.97	14.83	.....	.....	3.30	.....	...
	$30 or under $35	2.65	3.02	.....	.....	.....	6.15	...
	$35 or under $40	1.32	1.85	.....	.....	2.20	2.31	...
	$40 or under $45	1.05	1.22	.....	.....	1.10	.77	...
	$45 or under $50	.84	1.64	.....	.....	.....	.....	...
	$50 or over	.77	2.49	.....	.....	.....	12.31	...
	Total	100.00	100.00	100.00	100.00	100.00	100.00	10
9	Under $5	.....	.....	3.25	3.71	.69	4.51	...
	$5 or under $6	.....	.....	8.20	4.68	.69	3.83	...
	$6 or under $7	.....	.....	23.71	12.99	2.08	1.35	...
	$7 or under $8	.....	.....	35.24	18.99	12.50	5.18	...
	$8 or under $9	.....	.....	17.05	39.23	8.34	4.73	...
	$9 or under $10	.....	.....	12.55	20.40	13.89	4.05	1
	$10 or under $15	55.66	49.40	.....	.....	25.70	33.78	3
	$15 or under $20	25.47	15.80	.....	.....	18.06	27.48	2
	$20 or under $25	8.59	8.30	.....	.....	9.03	8.11	1
	$25 or under $30	6.23	5.70	.....	.....	3.47	2.25	...
	$30 or under $35	1.28	6.47	.....	.....	4.86	.90	
	$35 or under $40	.82	5.15	.....	.....	.69	1.35	...
	$40 or under $45	.51	4.30	.....	.....	.....	.68	...
	$45 or under $50	.31	.76	.....	.....	.....	.90	
	$50 or over	1.13	4.12	.....	.....	.....	.90	...
	Total	100.00	100.00	100.00	100.00	100.00	100.00	10
10	Under $5	.....	.....	3.65	.....	.....	.....	...
	$5 or under $6	.....	.....	9.74	3.66	.....	.....	...
	$6 or under $7	.....	.....	6.09	14.64	8.38	.87	...
	$7 or under $8	.....	.....	42.80	1.22	.....	2.89	...
	$8 or under $9	.....	.....	26.54	26.04	11.17	8.38	...
	$9 or under $10	.....	.....	11.18	33.07	.....	2.02	...
	$10 or under $15	45.50	.78	.....	21.37	63.13	35.55	10
	$15 or under $20	11.49	42.15	.....	.....	.....	40.46	...
	$20 or under $25	5.52	12.24	.....	.....	.....	.....	...
	$25 or under $30	13.08	1.53	.....	.....	17.32	9.83	...
	$30 or under $35	12.90	15.36	.....	.....	.....	.....	...
	$35 or under $40	.....	13.97	.....	.....	.....	.....	...
	$40 or under $45	11.51	.....	.....	.....	.....	.....	...
	$45 or under $50	.....	13.97	.....	.....	.....	.....	...
	$50 or over	.....	.....	.....	.....	.....	.....	...
	Total	100.00	100.00	100.00	100.00	100.00	100.00	10

PER CENT OF EMPLOYEES PAID EACH CLASSIFIED RATE OF WAGES PER WEEK BEFORE AND AFTER THE FORMATION OF THE COMBINATION, FOR EACH OF 13 COMBINATIONS—Concluded.

Marginal number.	Rate of wages paid per week.	Skilled laborers.		Unskilled laborers.		Clerks.		Others (not including superintendents, foremen, and traveling salesmen).	
		Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	Under uniting companies.	Under combination.
11	Under $5	11.34	12.28	.....	.....	2.94	2.56	.....	.....
	$5 or under $6	31.28	29.52	.....	.....	35.29	2.56	.....	.....
	$6 or under $7	23.24	19.27	100.00	.....	17.65	41.03	.....	.....
	$7 or under $8	8.14	8.30	.....	100.00	8.82	12.82	.....	.....
	$8 or under $9	6.73	5.38	.....	.....	2.94	15.39	.....	.....
	$9 or under $10	6.69	6.56	.....	.....	5.88	5.13	.....	.....
	$10 or under $15	12.12	17.79	.....	.....	11.77	15.39	.....	.....
	$15 or under $20	.46	.77	.....	.....	11.77	2.56	.....	.....
	$20 or under $25	.....	.13	.....	.....	2.94	2.56	.....	.....
	$25 or under $30	.....	.....	.....	.....	.....	.....	.....	.....
	$30 or under $35	.....	.....	.....	.....	.....	.....	.....	.....
	$35 or under $40	.....	.....	.....	.....	.....	.....	.....	.....
	$40 or under $45	.....	.....	.....	.....	.....	.....	.....	.....
	$45 or under $50	.....	.....	.....	.....	.....	.....	.....	.....
	$50 or over	.....	.....	.....	.....	.....	.....	.....	.....
	Total	100.00	100.00	100.00	100.00	100.00	100.00	.....	.....
12	Under $5	17.11	14.88	.....	.....	6.67	5.41	.....	.....
	$5 or under $6	15.42	16.95	.86	.77	15.55	8.11	.....	.....
	$6 or under $7	24.41	24.48	73.50	68.22	8.89	17.57	.....	.....
	$7 or under $8	16.72	16.54	11.97	18.60	.....	5.41	.....	.....
	$8 or under $9	7.49	8.25	7.69	6.98	2.22	2.70	.....	.....
	$9 or under $10	6.46	7.02	2.56	2.33	.....	12.16	.....	.....
	$10 or under $15	8.39	7.41	1.71	1.55	31.11	12.16	.....	.....
	$15 or under $20	3.38	3.82	1.71	1.55	22.22	21.62	.....	.....
	$20 or under $25	.38	.43	.....	.....	4.45	5.41	.....	.....
	$25 or under $30	.02	.02	.....	.....	4.45	2.70	.....	.....
	$30 or under $35	.10	.06	.....	.....	2.22	4.05	.....	.....
	$35 or under $40	.10	.12	.....	.....	.....	1.35	.....	.....
	$40 or under $45	.....	.....	.....	.....	.....	.....	.....	.....
	$45 or under $50	.....	.....	.....	.....	2.22	1.35	.....	.....
	$50 or over	.02	.02	.....	.....	.....	.....	100.00	100.00
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13	Under $5	.....	.....	1.23	.96	.81	.....	.....	.....
	$5 or under $6	.....	.....	.96	.89	1.61	1.47	.....	.....
	$6 or under $7	.....	.....	1.55	.89	1.61	3.43	.....	.....
	$7 or under $8	.43	.....	21.13	2.06	4.84	4.90	.....	1.45
	$8 or under $9	4.95	.11	21.40	18.14	8.07	5.88	.....	1.45
	$9 or under $10	6.97	.64	38.57	17.93	4.84	7.84	.....	2.90
	$10 or under $15	48.00	47.48	15.16	57.99	31.45	37.75	70.00	52.17
	$15 or under $20	20.58	29.76	.....	1.14	27.42	21.08	30.00	31.88
	$20 or under $25	9.06	10.45	.....	.....	8.87	9.32	.....	4.35
	$25 or under $30	3.36	4.97	.....	.....	3.23	3.92	.....	2.90
	$30 or under $35	3.25	2.99	.....	.....	2.42	.98	.....	.....
	$35 or under $40	.65	1.55	.....	.....	1.61	.98	.....	1.45
	$40 or under $45	.51	.29	.....	.....	1.61	.98	.....	1.45
	$45 or under $50	.72	.08	.....	.....	1.61	1.47	.....	.....
	$50 or over	1.52	1.68	.....	.....	.....	.....	.....	.....
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

The following table presents a summary of the foregoing table, but shows the number of employees of each class as well as the per cent:

NUMBER AND PER CENT OF EMPLOYEES PAID EACH CLASSIFIED RATE OF WAGES PER WEEK BEFORE AND AFTER THE FORMATION OF THE COMBINATIONS, FOR 13 COMBINATIONS.

Rate of wages paid per week.	Skilled laborers.				Unskilled laborers.				Clerks.			
	Under uniting companies.		Under combination.		Under uniting companies.		Under combination.		Under uniting companies.		Under combination.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under $5	1,477	4.39	1,429	3.55	4,902	11.23	6,959	12.84	66	3.15	96	3.03
$5 or under $6	2,342	6.96	2,252	5.60	2,720	6.23	2,394	4.42	85	4.06	118	3.73
$6 or under $7	2,351	6.99	2,118	5.27	5,332	12.21	5,195	9.58	105	5.01	149	4.71
$7 or under $8	1,256	3.74	1,285	3.20	12,638	28.94	5,389	9.94	89	4.25	146	4.61
$8 or under $9	924	2.75	751	1.87	7,717	17.67	13,477	24.86	147	7.02	204	6.44
$9 or under $10	1,565	4.65	1,514	3.76	7,310	16.74	11,258	20.77	160	7.64	179	5.65
$10 or under $15	14,122	41.98	14,344	35.67	2,971	6.80	9,371	17.28	647	30.90	977	30.85
$15 or under $20	4,839	14.39	8,108	20.16	77	.18	171	.31	380	18.15	713	22.51
$20 or under $25	1,606	4.78	2,807	6.98	2	(a)	.....	.....	171	8.17	240	7.58
$25 or under $30	1,245	3.70	1,077	2.68	.....	.....	.....	.....	115	5.49	145	4.58
$30 or under $35	933	2.77	1,562	3.88	.....	.....	.....	.....	51	2.43	61	1.93
$35 or under $40	92	.27	1,332	3.31	.....	.....	.....	.....	33	1.58	45	1.42
$40 or under $45	694	2.06	281	.70	.....	.....	.....	.....	14	.67	22	.69
$45 or under $50	63	.19	970	2.41	.....	.....	.....	.....	14	.67	22	.69
$50 or over	128	.38	387	.96	.....	.....	.....	.....	17	.81	50	1.58
Total	33,637	100.00	40,217	100.00	43,669	100.00	54,214	100.00	2,094	100.00	3,167	100.00

Rate of wages paid per week.	Others (not including superintendents, foremen, and traveling salesmen).				All employees (not including superintendents, foremen, and traveling salesmen).			
	Under uniting companies.		Under combination.		Under uniting companies.		Under combination.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under $5	b55	b4.61	b69	b5.13	c6,500	c8.06	c8,553	c8.64
$5 or under $6	b13	b1.09	b28	b2.08	c5,160	c6.40	c4,792	c4.84
$6 or under $7	b22	b1.84	b42	b3.12	c7,810	c9.69	c7,504	c7.58
$7 or under $8	b56	b4.69	b64	b4.76	c14,039	c17.42	c6,884	c6.96
$8 or under $9	b20	b1.68	b48	b3.57	c8,808	c10.93	c14,480	c14.64
$9 or under $10	b137	b11.47	b152	b11.30	c9,172	c11.38	c13,103	c13.24
$10 or under $15	b633	b53.02	b642	b47.73	c18,373	c22.80	c25,334	c25.61
$15 or under $20	b173	b14.49	b149	b11.08	c5,469	c6.79	c9,141	c9.24
$20 or under $25	b25	b2.09	b40	b2.98	c1,804	c2.24	c3,087	c3.12
$25 or under $30	b8	b.67	b27	b2.01	c1,368	c1.70	c1,249	c1.26
$30 or under $35	b10	b.84	b11	b.82	c994	c1.23	c1,634	c1.65
$35 or under $40	b6	b.50	b10	b.74	c131	c.16	c1,387	c1.40
$40 or under $45	b1	b.08	b3	b.22	c709	c.88	c306	c.31
$45 or under $50	b4	b.33	b5	b.37	c81	c.10	c997	c1.01
$50 or over	b31	b2.60	b55	b4.09	c176	c.22	c492	c.50
Total	b1,194	100.00	b1,345	100.00	c80,594	100.00	c98,943	100.00

a Percentage, 0.0046.
b Not including one combination not reporting.
c Not including "other" employees in one combination.

It will be noted that among skilled laborers the increase in the numbers of different classes comes chiefly in those receiving from $35 to $40 and $45 to $50 a week, so far as the higher-priced ones are concerned. A notable increase is also shown for those receiving from $15 to $20 and $20 to $25 a week. There was, on the other hand, a tendency to lessen the number of the more poorly paid men.

Among unskilled laborers both the number and per cent of those receiving less than $5 a week were increased. There was then a decided decrease until the class receiving from $8 to $9 was reached. There was a very noteworthy increase in both the number and per cent of employees receiving from $8 to $9 per week, in the higher class receiving from $9 to $10 per week, and in the still higher one receiving from $10 to $15. Among clerks the rates of wages were considerably more stable than in the case of the two preceding classes. The per cent of clerks employed in each class varied but little except in the classes receiving from $9 to $10 and from $15 to $20 per week. In the case of the employees unclassified, but excluding superintendents, foremen, and traveling salesmen, there was something of an increase in the per cent employed in the case of the lower-paid wage earners as well as in the case of those more highly paid, but throughout those of medium grade there was, generally speaking, a decrease. On the whole, taking the summary of all the employees, but excluding superintendents, foremen, and traveling salesmen, there was under combination a slight increase of wage earners of the lowest class, and thereafter in the classes whose wages ran from $8 to $25 per week a decided increase in both the number and per cent of men employed, although there was also a considerable increase in some of the classes receiving the higher wages. In those cases, however, the number of persons involved was so small that the general effect upon the wage-earning class as a whole could be but slight, even assuming that the figures for these combinations would hold good for industrial combinations in general.

It would, of course, be too much to say that these results show the general effect of combinations on wages. The returns are not numerous enough. Besides that, many of the combinations were formed at the beginning of a period of general industrial prosperity, so that an increase in wages was perhaps to be expected. The tables do show, so far as the figures go, that these combinations have not decreased wages among these classes of wage earners. Later tables show further points. Like tendencies appear also in the tables regarding large private companies (pp. 690, 691).

In addition to the classes mentioned in the foregoing tables, there is shown in the next table the average annual wages of employees of various classes before and after the formation of combinations in 14 combinations, together with the per cent of increase or decrease. This table shows, in addition to the classes mentioned in the previous tables (skilled laborers, unskilled laborers, clerks, and others), superintendents and foremen and traveling salesmen.

AVERAGE ANNUAL WAGES OF EMPLOYEES OF VARIOUS CLASSES BEFORE THE FORMATION OF THE COMBINATIONS AND THE PER CENT OF IN DECREASE, FOR 14 COMBINATIONS.

Marginal number.	Superintendents and foremen.			Traveling salesmen.			Skilled laborers.			Unskill
	Under uniting companies.	Under combination.	Per cent of increase or decrease.	Under uniting companies.	Under combination.	Per cent of increase or decrease.	Under uniting companies.	Under combination.	Per cent of increase or decrease.	Under uniting companies.
1	$1,471	$1,505	+ 2.31	$1,144	$1,150	+ 0.52	$609	$653	+ 7.22	$428
2	1,232	1,301	+ 5.60	1,742	1,631	− 6.37	661	627	− 5.14	435
3	1,244	1,515	+21.78	1,333	2,000	+ 50.04	(a)	(a)	(a)	(a)
4	1,833	1,958	+ 6.82	2,849	2,751	− 3.44	(a)	(a)	(a)	(a)
5	895	927	+ 3.58	(b)	1,262	(c)	623	713	+14.45	350
6	2,308	2,273	− 1.52	(b)	(b)	(b)	881	876	− .57	471
7	1,211	990	−18.25	(b)	1,721	(c)	703	766	+ 8.96	497
8	1,245	1,160	− 6.83	1,932	2,296	+ 18.84	586	601	+ 2.56	381
9	1,145	1,094	− 4.45	1,079	1,108	+ 2.69	540	547	+ 1.30	214
10	d 657	d 783	+19.18	d 631	d 1,771	+180.67	d 439	d 524	+19.36	d 180
11	d 609	a 721	+18.39	d 825	d 2,554	+209.58	d 355	d 409	+15.21	d 170
12	1,606	1,606	.00	5,000	(b)	(c)	656	821	+25.15	149
13	1,527	1,599	+ 4.72	1,500	1,500	.00	d 159	d 162	+ 1.89	d 203
14	1,222	1,258	− 2.95	2,325	3,000	+ 29.03	647	837	+29.37	404

Marginal number.	Clerks.			Others.			All empl
	Under uniting companies.	Under combination.	Per cent of increase or decrease.	Under uniting companies.	Under combination.	Per cent of increase or decrease.	Under uniting companies.
1	$679	$672	− 1.03	$4,320	$3,704	− 14.26	$767
2	827	759	− 8.22	5,487	4,618	− 15.84	674
3	(a)	(a)	(a)	(a)	(a)	(a)	(a)
4	(a)	(a)	(a)	(a)	(a)	(a)	(a)
5	640	817	+27.66	563	603	+ 7.10	472
6	1,020	1,020	.00	900	900	.00	779
7	744	746	+ .27	899	827	− 8.01	555
8	894	1,107	+23.83	674	653	− 3.12	468
9	673	672	− .15	655	584	− 10.84	438
10	d 389	d 392	+ .77	d 287	d 325	+ 13.24	d 280
11	d 384	d 350	− 8.85	d 353	d 1,130	+220.11	d 254
12	732	732	.00	599	599	.00	360
13	d 369	d 333	− 9.76	d 2,600	d 4,055	+ 55.96	d 176
14	763	695	− 8.91	620	644	+ 3.87	546

a Not reported.
b None employed.
c See note b.
d Average wages for 6 months.

Out of the 14 establishments giving returns, the table shov 9 the average wages of superintendents and foremen incre wages decreased in 4, while in 1 there had been no change. these 14 companies 10 were formed in the years 1898 and 189 the comparison of conditions before and after is a very direct one case, in which the per cent of increase was very large, tl nation was formed in the 60's, so that it might be expected t would be a large increase entirely aside from the influence c nation. In the cases in which there was a decrease, one cor was formed in 1897, two in 1898, and the fourth in 1899. T offered before the Industrial Commission and statements managers of the combinations elsewhere go to show that, many cases at least, high-priced men, who have been the head pendent establishments, may be dispensed with, and their pla by men of less experience, working under the supervision of o thoroughly trained and skilled men.

The evidence afforded by this table, however, contradicts rather than supports such a conclusion. The table on page 687 seems to support that conclusion, but it should be added in explanation that two combinations showing large percentages of gain unfortunately reported wages for six months only, and could not be included in the table on page 687.

It has been thought that, owing to the fact that there was less competition, men who were less skilled as salesmen might do effectively the work of the combination when they could not do that of independent establishments. The table shows that in 7 cases out of the 14, nevertheless, the average annual wages of traveling salesmen increased. In 2 there was a decrease; in 1 the wages remained the same. In 2 cases no traveling salesmen had been employed by the companies entering into the combination, whereas after the combination was made such men were put to work. In 1 case in which traveling salesmen had been employed by the separate companies their services were entirely dispensed with under the combination. One reported none employed before or after.

The average annual wages of skilled laborers has increased in 10 cases and decreased in 2, the average amount of the increase being considerably greater than that of the decrease. There was also an increase in the average annual wages of unskilled laborers in 10 cases, a decrease in only 1, while 1 remained the same. Taking the employees as a whole, the results show that out of 12 cases reporting there had been an increase of wages in 9 cases and a decrease in 3.

One of the combinations which shows a slight increase in the average annual wages of skilled laborers reports that "the old employees are to-day receiving, on the whole, higher wages than they were under the uniting companies, but that there has been a large increase in the number of skilled employees, and the new employees taken on were paid lower wages at first because, while nominally skilled, they are not so efficient as the old and trained men. This tends to reduce the average for the class."

The same combination is now putting out its products in a form which requires a great many low-paid employees for packing, wrapping, and labeling. This tends to reduce the average wages of unskilled laborers.

The assumption from these returns that the effect of forming the combinations has been to increase the wages of practically all classes of employees in the various classes of industry would not be warranted. It should be recalled that a majority of these combinations were formed during the last two years, and that within this time in very many lines of business, both those that have been organized into combinations and those which have remained under the most active competitive system, wages have very generally been increased. This

has been made easily possible by the fact that, owing to the ous condition of business in general, prices have also increased with the increase in wages there has also probably been an in profits. They show in favor of the combinations, but one is ranted in drawing sweeping conclusions.

Instead of the average annual wages, the next table shows cent of increase or decrease in the total annual wages, toget the per cent of increase or decrease in the number of empl the various classes before named:

PER CENT OF INCREASE OR DECREASE IN NUMBER AND TOTAL ANNUAL EMPLOYEES OF VARIOUS CLASSES SINCE THE FORMATION OF THE COMB FOR 16 COMBINATIONS.

Marginal number.	Superintendents and foremen.		Traveling salesmen.		Skilled laborers.		Unskilled
	Number.	Wages.	Number.	Wages.	Number.	Wages.	Number.
1	− 6.82	− 4.68	− 2.60	− 2.16	+ 3.39	+10.81	− 16.94
2	+ 19.30	+ 25.97	+ 18.18	+ 10.68	+ 2.85	− 2.33	+ 2.09
3	− 26.67	− 10.71	− 58.33	− 37.50	(a)	(a)	(a)
4	.00	+ 6.82	+ 5.71	+ 2.11	(a)	(a)	(a)
5	+ 43.18	+ 48.23	(b)	(c)	+52.52	+74.45	+ 21.06
6	− 15.38	− 16.67	(d)	(d)	− 1.52	− 2.09	− .50
7	+ 20.69	− 1.33	(e)	(f)	− 4.31	+ 4.12	+ 16.61
8	+237.50	+283.33	+550.00	+503.57	+76.09	+75.06	+151.07
9	+ 18.75	+ 10.58	+ 11.76	+ 82.83	+38.76	+42.35	+ 9.48
0	+ 4.47	− .18	+ 9.31	+ 12.25	+25.19	+26.73	+ 34.24
11	+ 20.27	+ 43.33	− 50.00	+ 40.25	+38.74	+65.58	+ 40.14
12	+ 24.24	+ 46.95	− 18.75	+151.52	+15.74	+33.50	+ 15.93
13	+ 14.29	+ 14.30	(g)	(h)	+15.40	+44.59	+ 16.54
14	(a)	+ 9.63	(a)	(a)	− 6.53	− .18	− 21.31
15	− 13.43	− 9.35	.00	.00	+ 2.20	+ 4.05	+ 10.26
16	+ 23.01	+ 26.64	− 75.00	− 67.74	+14.49	+48.08	+ 51.02
1							

Marginal number.	Clerks.		Others.		All employe
	Number.	Wages.	Number.	Wages.	Number.
1	− 1.64	− 2.63	− 8.00	− 21.13	− 0.22
2	+ 34.68	+ 23.67	.00	− 15.84	+ 6.01
3	(a)	(a)	(a)	(a)	(a)
4	(a)	(a)	(a)	(a)	(a)
5	+126.15	+188.85	+ 68.97	+ 81.02	+ 36.47
6	− 8.96	− 8.96	− 13.33	− 13.33	− 3.45
7	+171.43	+172.12	+ 78.26	+ 63.95	+ 18.70
8	+225.00	+130.95	(i)	(j)	+142.94
9	+ 27.70	+ 58.09	+ 21.67	+ 17.95	+ 18.47
10	+ 22.03	+ 21.81	+ 29.27	+ 15.35	+ 28.75
11	+ 51.25	+ 52.31	− 15.56	− 4.53	+ 37.43
12	+135.58	+114.63	− 61.29	+ 23.99	+ 17.35
13	+ 93.30	+ 93.30	+ 8.33	+ 8.33	+ 16.74
14	+ 14.71	+ 2.73	(d)	(d)	(a)
15	+ 64.44	+ 48.31	− 8.33	+ 42.95	+ 2.71
16	+ 10.42	+ .66	+142.86	+152.17	+ 32.54

a Not reported.
b None employed in uniting companies; 20 in combination.
c Nothing paid in uniting companies; $25,248 in combination.
d None employed.
e None employed in uniting companies; 3 in combination.
f Nothing paid in uniting companies; $5,163 in combination.
g Thirty-two employed in uniting companies; none in combination.
h $160,000 paid in uniting companies; nothing in combination.
i None employed in uniting companies; 41 in combination.
j Nothing paid in uniting companies; $96,377 in combination.

This table shows, too, that in a great majority of cases the been an increase all along the line, both in the number of emp

and in the total wages. Without entering into the details regarding the various classes of labor, it will perhaps be worth noting that, taking all of the employees together, there have been but 2 cases of a decrease in the number of employees out of 13 reporting, and but 1 case, out of the same number, of a decrease in the total annual wages. This table seems also to show that the percentage of increase in wages has been more than that of the increase in the number of men, thus confirming again the statements as to the general average increase in wages.

The table following shows the average annual wages paid before and after the formation of the combinations and the per cent of increase or decrease in average annual wages, as well as the per cent of increase or decrease in the number of employees and in the total amount of wages paid, by classes of employees:

AVERAGE ANNUAL WAGES PAID BEFORE AND AFTER THE FORMATION OF THE COMBINATIONS AND PER CENT OF INCREASE OR DECREASE IN AVERAGE ANNUAL WAGES, NUMBER OF EMPLOYEES, AND TOTAL ANNUAL WAGES.

Class of employees.	Combinations reporting.	Average annual wages paid.			Per cent of increase or decrease in the number of employees.	Per cent of increase or decrease in total amount of wages paid.
		Under uniting companies.	Under combination.	Per cent of increase or decrease.		
Superintendents and foremen	12	$1,262	$1,227	− 2.77	+11.79	+ 8.72
Traveling salesmen	12	1,346	1,246	− 7.43	+ 4.17	− 3.57
Skilled laborers	9	620	705	+13.71	+23.34	+40.13
Unskilled laborers	9	294	351	+19.39	+20.06	+43.38
Clerks	9	757	798	+ 5.42	+36.45	+43.98
Other employees	9	754	662	−12.20	+29.06	+13.42
All employees	9	460	518	+12.61	+21.56	+36.68

For the combinations reporting this table shows an increase in the average annual wages paid to skilled laborers, to unskilled laborers, and to clerks, and a decrease in the average annual wages paid to superintendents and foremen, traveling salesmen, and the unclassified employees. Taking all of the employees together, the percentage of increase of average annual wages has been 12.61. The greatest increase has appeared in the case of the unskilled laborers; the greatest percentage of decrease in the unclassified employees, while traveling salesmen have lost much more in average annual wages than have superintendents and foremen, the figures being respectively 7.43 and 2.77. In all classes of employees, taking all of the establishments which have reported, there has been a decided increase in the number of employees; and in all cases, with the exception of the traveling salesmen, there has been also an increase in the total amount of wages paid. The traveling salesmen have received less by 3.57 per cent.

One can not make, however, a fair judgment regarding the effect of the combinations upon the employees, unless one takes into consideration also the relative efficiency of the work of the men under

the two systems, comparing the amount of work perform annual wages paid. The next table attempts to throw upon this question. The preferable way to determine th of the employees would be to secure the number of unit in each specific plant to compare with the number of That it has not been possible to do, but it has been po few cases to secure the total amount of gross sales made b ing companies for the year previous to the combination an amount during the year 1899. The reports secured for t of employees and annual wages did not cover exactly the sa of time, being in the earlier period for some fiscal year ju to the formation of the combination and in the more recent some fiscal year including the time of the visit of the ag Department of Labor. These facts relating to gross sales, and annual wages are, however, brought together in the ta ing for whatever value they may have in a study of the The table gives the total amount of gross sales, the total employees, and the total annual wages of all employees for previous to the formation of the combinations and under co with the per cent of increase or decrease. Of the 8 co reporting, 4 were organized in the earlier part of the year 1 organized in 1898, 1 in 1895, 1 in 1891, and 1 in the 60's. it is to be expected that in the case of those formed earlie centage of increase of sales during the year 1899 as comp that before the organization should be very great. It is expected that with this increase in output should come an i the total number of employees and in the annual wages paid

TOTAL AMOUNT OF GROSS SALES, NUMBER OF EMPLOYEES, AND TOTAL AN BEFORE AND AFTER COMBINATION AND PER CENT OF INCREASE OR D EACH, FOR 8 COMBINATIONS.

Marginal number.	Total amount of gross sales.			Total number of employees.			Total annual wa ploye	
	By uniting companies for year previous to combining.	By combination for year 1899.	Per cent of increase or decrease.	Of uniting companies before combining.	Of combination.	Per cent of increase or decrease.	Of uniting companies before combining.	Of com natio
1.....	$4,226,366	$5,260,088	+ 24.46	1,393	1,390	— 0.22	$1,067,812	$1,084,
2.....	895,000	1,380,000	+ 54.19	(a)	(a)	(a)	(a)	(a)
3.....	2,040,599	2,291,259	+ 12.28	(a)	(a)	(a)	(a)	(a)
4.....	4,157,815	6,219,000	+ 49.57	3,189	4,352	+ 36.47	1,504,611	2,450,
5.....	4,500,000	11,000,000	+144.44	822	1,997	+142.94	403,990	865,
6.....	28,500,000	35,652,000	+ 25.09	10,860	13,982	+ 28.75	4,753,420	5,838,
7.....	7,864,699	b 8,582,234	+ 9.12	5,010	5,146	+ 2.71	c 883,039	c 932,
8.....	d 12,810,714	d 25,365,884	d + 98.01	5,577	7,392	+ 32.54	3,046,330	4,939,
Total	e 64,995,193	e 95,750,465	e + 47.32	f 26,851	f 34,259	f + 27.59	g 11,659,202	g 16,112,

a Not reported.
b Estimated.
c Wages for 6 months only.
d Output of about two-thirds of the plants in the combination.
e One combination reports output of about two-thirds of its plants.
f Six combinations reporting.
g Six combinations reporting. One combination reports wages for 6 months or

While the relation of the number of employees to gross sales can not be taken as a sound economic basis for calculating the efficiency of labor, it may be used as indicating the economic results of management or method or the activity of the whole force. It is in this light the analysis as to efficiency must be considered.

While the number of combinations reporting is so small and the character of the reports such that one would not be justified in reaching positive conclusions, it is nevertheless to be noted that so far as these returns go they serve to support the contention of those who claim that combinations of capital increase the efficiency of the workingmen. On the other hand, one needs to guard against laying much stress on that, inasmuch as prices during the year 1899 in the industries reported on have very generally increased, the increase in some having been very marked indeed. So, also, as regards the increase in wages, it is well known that in many lines wages have been increased, but it is as yet too soon to draw a positive conclusion to the effect that combinations will, on the whole, increase wages. Not until after they have passed through a period of depression as well as one of prosperity will there be sufficient data so that one can reach positive conclusions regarding their effects upon prices and wages.

In order that wages paid by the combinations may be compared with those paid by large private companies, several tables have been prepared dealing with the wages paid by three large private companies engaged in business similar to some of the combinations covered by the previous tables. These private companies, perhaps, it should be stated, employ as many workmen and carry on business on quite as large a scale as some of the combinations included in this report. The first of the tables gives the per cent of each class of employees receiving each classified rate of wages per week in 1897 and 1899, each establishment being shown separately. This is followed by a table showing for the three companies combined the number of employees in each class and at each classified rate of pay. A third table shows the average annual wages paid, with the per cent of increase or decrease in average wages, in number of employees, and in total annual wages.

PER CENT OF EMPLOYEES IN 8 PRIVATE COMPANIES PAID EACH CLASS WAGES PER WEEK, 1897 AND 1899.

Marginal number.	Rate of wages paid per week.	Skilled laborers.		Unskilled laborers.		Clerks.	
		1897.	1899.	1897.	1899.	1897.	1899.
1	Under $5	.....	.....	.....	.....	.....	.....
	$5 or under $6	.....	.....	.....	.....	.....	.....
	$6 or under $7	.....	.....	23.45	16.14	.....	.....
	$7 or under $8	.....	.....	3.16	3.58	.....	.....
	$8 or under $9	.....	.....	73.39	80.28	.....	.....
	$9 or under $10	20.98	22.98	.....	.....	.....	.....
	$10 or under $15	46.88	45.48	.....	.....	.....	.....
	$15 or under $20	21.53	22.06	.....	.....	.....	.....
	$20 or under $25	5.15	4.75	.....	.....	.....	.....
	$25 or under $30	2.36	1.69	.....	.....	.....	.....
	$30 or under $35	2.04	2.04	.....	.....	.....	.....
	$35 or under $40	.43	.44	.....	.....	.....	.....
	$40 or under $45	.14	.13	.....	.....	.....	.....
	$45 or under $50	.29	.24	.....	.....	.....	.....
	$50 or over	.20	.19	.....	.....	.....	.....
	Total	100.00	100.00	100.00	100.00	.....	.....
2	Under $5	.....	.....	1.99	1.98	.....	.....
	$5 or under $6	.....	.....	.99	.49	.....	.....
	$6 or under $7	.....	.....	4.99	.99	.....	.....
	$7 or under $8	.....	.....	5.99	6.93	.....	.....
	$8 or under $9	.....	.....	25.98	2.97	.....	.....
	$9 or under $10	10.33	3.92	50.06	1.92	.....	.....
	$10 or under $15	69.74	59.79	7.99	81.81	.....	32.63
	$15 or under $20	19.93	36.29	1.99	2.91	100.00	.....
	$20 or under $25	.....	.....	.....	.....	.....	67.37
	$25 or under $30	.....	.....	.....	.....	.....	.....
	$30 or under $35	.....	.....	.....	.....	.....	.....
	$35 or under $40	.....	.....	.....	.....	.....	.....
	$40 or under $45	.....	.....	.....	.....	.....	.....
	$45 or under $50	.....	.....	.....	.....	.....	.....
	$50 or over	.....	.....	.....	.....	.....	.....
	Total	100.00	100.00	100.00	100.00	100.00	100.00
3	Under $5	.....	.....	5.58	5.21	1.79	0.88
	$5 or under $6	.....	.....	1.97	.88	1.79	3.51
	$6 or under $7	.....	.....	3.53	3.05	1.79	2.63
	$7 or under $8	.....	.....	58.71	2.78	10.71	.88
	$8 or under $9	.....	.....	14.54	56.69	17.86	7.02
	$9 or under $10	.....	.....	15.67	31.39	3.57	8.77
	$10 or under $15	38.91	41.22	.....	.....	28.57	37.72
	$15 or under $20	38.85	30.57	.....	.....	16.07	19.30
	$20 or under $25	10.36	9.79	.....	.....	5.35	7.90
	$25 or under $30	5.21	6.91	.....	.....	3.57	5.26
	$30 or under $35	2.54	5.87	.....	.....	1.79	.....
	$35 or under $40	1.08	1.25	.....	.....	5.35	2.63
	$40 or under $45	1.46	2.85	.....	.....	.....	.....
	$45 or under $50	.32	1.01	.....	.....	.....	1.75
	$50 or over	1.27	1.53	.....	.....	1.79	1.75
	Total	100.00	100.00	100.00	100.00	100.00	100.00

NUMBER OF EMPLOYEES IN 3 PRIVATE COMPANIES PAID EACH CLASSIFIED RATE OF WAGES PER WEEK, 1897 AND 1899.

Rate of wages paid per week.	Skilled laborers.		Unskilled laborers.		Clerks.		Others (not including superintendents, foremen, and traveling salesmen).		All employees (not including superintendents, foremen, and traveling salesmen).	
	1897.	1899.	1897.	1899.	1897.	1899.	1897.	1899.	1897.	1899.
Under $5	.....	.....	275	375	1	1	1	15	277	391
$5 or under $6	.....	.....	116	78	1	4	3	.....	120	82
$6 or under $7	.....	.....	771	493	1	3	2	1	774	497
$7 or under $8	.....	.....	1,981	798	6	1	.....	5	1,987	804
$8 or under $9	.....	.....	3,172	3,829	10	8	10	11	3,192	3,848
$9 or under $10	1,950	3,056	3,641	1,350	2	10	1	11	5,594	4,427
$10 or under $15	5,097	7,106	515	7,442	16	74	21	10	5,649	14,632
$15 or under $20	2,638	3,695	128	265	77	22	13	6	2,856	3,988
$20 or under $25	635	832	.....	.....	3	73	2	2	640	907
$25 or under $30	298	368	.....	.....	2	6	3	6	303	380
$30 or under $35	227	382	.....	.....	1	.....	1	3	229	385
$35 or under $40	56	84	.....	.....	3	3	1	2	60	89
$40 or under $45	36	66	.....	.....	.....	.....	.....	1	36	67
$45 or under $50	32	53	.....	.....	.....	2	.....	.....	32	55
$50 or over	38	57	.....	.....	1	2	.....	1	39	60
Total	11,007	15,699	10,599	14,630	124	209	58	74	21,788	30,612

AVERAGE ANNUAL WAGES PAID BY 3 PRIVATE COMPANIES IN 1897 AND 1899, AND THE PER CENT OF INCREASE OR DECREASE IN AVERAGE ANNUAL WAGES, NUMBER OF EMPLOYEES, AND TOTAL ANNUAL WAGES.

Class of employees.	Companies reporting.	Average annual wages.			Per cent of increase or decrease in number of employees.	Per cent of increase or decrease in total annual wages.
		1897.	1899.	Per cent of increase or decrease.		
Superintendents and foremen	1	$1,069	$1,010	− 5.52	+33.33	+26.01
Traveling salesmen	1	(a)	(a)	(a)	(a)	(a)
Skilled laborers	3	690	740	+ 7.25	+41.87	+52.10
Unskilled laborers	3	489	572	+16.97	+41.08	+65.11
Clerks	2	681	727	+ 6.75	+80.61	+92.85
Other employees	1	788	735	− 6.73	+22.64	+14.40
All employees	1	586	689	+17.58	+49.33	+75.60

a None employed.

The latter table summarizes the facts for the three companies combined, so far as reports were obtained. The average annual wages in 1897 and in 1899 are shown for each class of employees and the per cent of increase or decrease in the latter year over the former. In additional columns are shown, first, the per cent of increase in 1899 over 1897 in the number of employees, and, second, in the total annual wages.

It will be noted upon an examination of this table that the percentage of increase in the average annual wages of all employees taken together in the one company reporting as to all employees was 17.58. This company employed no traveling salesmen. If one were to remove that element from the combinations and give the per cent of increase of average wages not including traveling salesmen, it would make it 13.90. The average annual wages of superintendents and foremen decreased 5.52 per cent in the case of the private company and 2.77 per cent under the combinations. In the private

company the greatest percentage of decrease was likewise unclassified employees, being 6.73 per cent to 12.20 amon binations. The unskilled laborers, on the other hand, had considerably increased under the combinations, receiving of 19.39 per cent, while under the three companies oper pendently it was only 16.97 per cent. The skilled laborers combinations received an increase of 13.71 per cent, the inc the private companies being only 7.25 per cent. It noted, however, that these increases in the private comp between the years 1897 and 1899. The increases in the combinations are comparisons between any one year befo bination was made and the year 1899. In a few cases thi considerably earlier than 1897, so that the comparison directly made. The only conclusion that can fairly be rea the circumstances is that the combinations on the whol same tendency as the large private companies, and that so figures go one can not say that they have treated the labore generously.

The two short tables which follow give the average daily tion of all railway employees in the United States for the ye June 30, 1892 to 1899. In the first table the figures are ab in the second relative, the wages for 1892 being taken as or 100.

AVERAGE DAILY COMPENSATION OF ALL RAILWAY EMPLOYEES IN THE UN FOR THE YEARS ENDING JUNE 30, 1892 TO 1899.

[The data contained in this table for the years 1892 to 1898 are from the reports of Commerce Commission on the statistics of railways in the United States. Those for nished to the Department through the courtesy of the statistician from advance sheets report for 1899.]

Occupations.	1892.	1893.	1894.	1895.	1896.	1897.
General officers	(a)	(a)	$9.71	$9.01	$9.19	$9.54
Other officers	(a)	(a)	5.75	5.85	5.96	5.12
Average for general and other officers	$7.62	$7.84	8.50	7.81	7.91	7.32
General office clerks	2.20	2.23	2.34	2.19	2.21	2.18
Station agents	1.81	1.83	1.75	1.74	1.73	1.73
Other station men	1.68	1.65	1.68	1.62	1.62	1.62
Enginemen	3.68	3.66	3.61	3.65	3.65	3.65
Firemen	2.07	2.04	2.03	2.05	2.06	2.05
Conductors	3.07	3.08	3.04	3.04	3.05	3.07
Other train men	1.89	1.91	1.89	1.90	1.90	1.90
Machinists	2.29	2.33	2.21	2.22	2.26	2.23
Carpenters	2.08	2.11	2.02	2.03	2.03	2.01
Other shopmen	1.71	1.75	1.69	1.70	1.69	1.71
Section foremen	1.76	1.75	1.71	1.70	1.70	1.70
Other track men	1.22	1.22	1.18	1.17	1.17	1.16
Switchmen, flagmen, and watchmen	1.78	1.80	1.75	1.75	1.74	1.72
Telegraph operators and dispatchers	1.93	1.97	1.93	1.98	1.93	1.90
Employees (account floating equipment)	2.07	1.96	1.97	1.91	1.94	1.86
All other employees (including laborers)	1.67	1.70	1.65	1.65	1.65	1.64

a Not reported.

RELATIVE AVERAGE DAILY COMPENSATION OF ALL RAILWAY EMPLOYEES IN THE UNITED STATES FOR THE YEARS ENDING JUNE 30, 1892 TO 1899.

Occupations.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
General officers Other officers	100.0	102.9	111.5	102.5	103.8	96.1	97.8	98.0
General office clerks	100.0	101.4	106.4	99.5	100.5	99.1	102.3	100.0
Station agents	100.0	101.1	96.7	96.1	95.6	95.6	95.6	96.1
Other station men	100.0	98.2	97.0	96.4	96.4	96.4	95.8	95.2
Enginemen	100.0	99.5	98.1	99.2	99.2	99.2	101.1	101.1
Firemen	100.0	98.6	98.1	99.0	99.5	99.0	101.0	101.4
Conductors	100.0	100.3	99.0	99.0	99.3	100.0	102.0	102.0
Other train men	100.0	101.1	100.0	100.5	100.5	100.5	103.2	102.6
Machinists	100.0	101.7	96.5	96.9	98.7	97.4	99.6	100.0
Carpenters	100.0	101.4	97.1	97.6	97.6	96.6	97.1	97.6
Other shopmen	100.0	102.3	98.8	99.4	98.8	100.0	99.4	100.6
Section foremen	100.0	99.4	97.2	96.6	96.6	96.6	96.0	95.5
Other track men	100.0	100.0	96.7	95.9	95.9	95.1	95.1	96.7
Switchmen, flagmen, and watchmen	100.0	101.1	98.3	98.3	97.8	96.6	97.8	99.4
Telegraph operators and dispatchers	100.0	102.1	100.0	102.6	100.0	98.4	99.5	100.0
Employees (account floating equipment)	100.0	94.7	95.2	92.3	93.7	89.9	91.3	91.3
All other employees (including laborers)	100.0	101.8	98.8	98.8	98.8	98.2	100.0	100.6

From this latter table it appears that the tendency of railway wages in the last two years has been upward and that in a majority of the occupation classes the wages of 1899 had either reached or passed the former level of 1892. This includes such great operating occupations as enginemen, firemen, conductors, other train men, and telegraph operators and dispatchers. Other occupations containing very large numbers are still considerably below the level of 1892. Taking all the employees together, it is probable that the average is still somewhat below that level.

If one compares the wages shown for the combinations and the three private companies with the average daily compensation from 1892 to 1899 of railway employees in the United States, as given above, it will appear that the increase in average annual wages has been decidedly greater among both these private manufacturing companies and the combinations; so, likewise, if one takes the rates of wages shown in Table I, involving occupations of various kinds in the building trades and in various manufacturing industries in different sections of the United States from the first year for which they were obtainable up to April, 1900. As no summary of this great mass of wage data in Table I has been made no exact comparison can be drawn between wages in general as there shown and as given in the previous tables for the combinations and the large private manufacturing corporations. But it would appear that the per cent of increase shown for the combinations has not been exceeded in wages in general. A careful examination of the details of Table I would seem to show that wages in general have reached and in some cases passed the former high level of wages of 1892.

The following statement, showing wages of farm laborers in various years from 1866 to 1899, will permit comparison to be made also with that class of labor:

AVERAGE WAGES OF FARM LABORERS, 1866 TO 1899.

[The facts contained in this table were furnished to the Department by the statistician of the Department of Agriculture. The wages for 1866, 1869, and 1875, except for Oregon, are in currency.]

States.	Wages per day in harvest without board.													
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.	1892.	1893.	1894.	1895.	1898.	1899.
Vermont	$2.32	$2.46	$2.28	$1.29	$1.75	$1.68	$1.65	$1.68	$1.70	$1.90	$1.69	$1.61	$1.68	$1.74
Pennsylvania	2.32	2.23	2.01	1.33	1.73	1.65	1.51	1.55	1.57	1.49	1.38	1.42	1.44	1.51
N. Carolina	1.53	1.37	1.17	.99	1.20	1.15	.96	1.00	1.04	.95	.90	.93	.93	.94
Texas	1.65	1.58	1.52	1.30	1.39	1.32	1.23	1.20	1.10	1.11	1.03	1.04	1.14	1.16
Iowa	2.38	2.85	2.57	1.66	2.25	2.00	1.81	1.71	1.75	1.64	1.46	1.47	1.59	1.75
Oregon	2.40	.....	2.11	2.02	1.92	1.95	1.94	1.90	2.00	1.79	1.51	1.37	1.67	1.82

States.	Wages per day in harvest with board.													
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.	1892.	1893.	1894.	1895.	1898.	1899.
Vermont	$1.85	$2.00	$1.85	$0.97	$1.35	$1.30	$1.35	$1.37	$1.33	$1.60	$1.39	$1.26	$1.36	$1.41
Pennsylvania	1.80	1.73	1.51	.99	1.30	1.20	1.13	1.18	1.20	1.19	1.08	1.14	1.13	1.20
N. Carolina	1.17	1.04	1.00	.76	.85	.82	.75	.80	.82	.80	.75	.74	.78	.79
Texas	1.32	1.26	1.20	.94	1.08	1.04	.96	.93	.90	.93	.86	.83	.92	.93
Iowa	1.88	2.24	2.10	1.57	1.81	1.61	1.46	1.50	1.40	1.33	1.16	1.19	1.28	1.47
Oregon	1.80	.....	1.72	1.54	1.50	1.50	1.45	1.45	1.55	1.42	1.18	1.10	1.34	1.47

States.	Wages per day outside of harvest without board.													
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.	1892.	1893.	1894.	1895.	1898.	1899.
Vermont	$1.76	$1.76	$1.51	$0.91	$1.20	$1.15	$1.16	$1.19	$1.23	$1.26	$1.11	$1.25	$1.27	$1.30
Pennsylvania	1.59	1.43	1.37	.96	1.20	1.10	1.10	1.09	1.10	1.09	1.00	1.04	1.09	1.15
N. Carolina	.72	.74	.72	.58	.68	.67	.61	.62	.63	.58	.54	.54	.58	.60
Texas	1.31	1.16	1.14	.92	.93	.98	.95	.97	.98	.90	.84	.81	.89	.90
Iowa	1.62	1.52	1.38	1.12	1.34	1.31	1.27	1.23	1.25	1.29	1.17	1.17	1.27	1.40
Oregon	1.75	.....	1.47	1.44	1.33	1.30	1.35	1.38	1.55	1.29	1.06	1.00	1.24	1.35

States.	Wages per day outside of harvest with board.													
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.	1892.	1893.	1894.	1895.	1898.	1899.
Vermont	$1.32	$1.28	$1.11	$0.64	$0.90	$0.88	$0.90	$0.92	$0.94	$1.05	$0.97	$0.94	$0.97	$1.00
Pennsylvania	1.10	1.04	.95	.63	.85	.80	.82	.81	.81	.81	.74	.78	.80	.84
N. Carolina	.50	.49	.51	.41	.46	.47	.45	.46	.45	.46	.43	.41	.44	.46
Texas	.98	.84	.84	.66	.70	.76	.71	.73	.72	.72	.67	.63	.67	.68
Iowa	1.19	1.13	1.01	.80	.99	.97	.97	.95	.98	1.00	.88	.93	.99	1.11
Oregon	1.40	.....	1.15	1.08	1.00	.95	.98	1.03	1.05	.96	.76	.72	.93	1.00

States.	Wages per month without board.							
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.
Vermont	$32.84	$32.40	$29.67	$19.00	$23.37	$23.00	$23.25	$24.80
Pennsylvania	29.91	58.68	25.89	19.92	22.88	22.52	22.24	22.80
North Carolina	13.46	12.76	13.46	11.19	12.86	12.85	13.41	12.83
Texas	19.00	18.83	19.50	18.27	20.20	18.87	19.20	19.85
Iowa	28.34	28.39	24.35	22.09	26.21	25.33	25.60	25.41
Oregon	35.75	.....	38.25	35.45	33.50	34.00	32.56	31.60

States.	1892.	1893.	1894.	1895.	1898.		1899.	
					By the year.	By the season.	By the year.	By the season.
Vermont	$24.67	$25.55	$23.60	$27.37	$25.69	$27.77	$26.36	$28.62
Pennsylvania	23.00	22.84	21.32	21.93	20.79	22.60	21.74	23.74
North Carolina	13.30	12.56	11.73	11.59	11.69	12.51	11.96	12.83
Texas	18.75	18.96	17.78	17.85	17.34	18.23	17.54	18.42
Iowa	26.20	27.16	25.29	25.52	24.73	26.02	26.33	27.85
Oregon	34.25	30.58	25.73	23.79	27.86	30.78	29.64	32.82

AVERAGE WAGES OF FARM LABORERS, 1866 to 1899—Concluded.

States.	Wages per month with board.							
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.
Vermont	$21.00	$21.40	$19.37	$11.50	$16.00	$16.20	$16.40	$17.35
Pennsylvania	18.84	18.05	16.10	11.46	14.21	14.12	14.50	14.60
North Carolina	8.15	7.91	8.82	7.76	8.80	8.91	9.00	8.80
Texas	12.72	13.21	13.37	11.49	14.03	13.72	12.60	13.30
Iowa	18.87	17.87	16.11	13.90	17.95	17.00	17.34	17.00
Oregon	22.53	.....	25.67	23.86	24.75	21.25	23.00	22.00

States.	1892.	1893.	1894.	1895.	1898.		1899.	
					By the year.	By the season.	By the year.	By the season.
Vermont	$17.45	$18.20	$16.81	$17.94	$17.21	$19.40	$17.65	$19.84
Pennsylvania	15.00	14.19	13.03	13.66	12.68	14.46	13.41	15.26
North Carolina	8.78	8.62	7.95	7.80	7.84	8.78	8.05	9.06
Texas	13.00	13.58	12.59	12.55	12.27	13.37	12.41	13.47
Iowa	17.75	19.46	17.90	18.15	17.44	18.93	18.38	20.25
Oregon	23.00	21.99	17.41	16.54	19.83	23.12	21.09	24.69

The wages of farm laborers as shown here differ in their course but little from those of railway labor. It will be seen that the years 1898 and 1899 have witnessed a gradual advance over the decline following 1892 and 1893, but that, taken as a whole, the highest levels of those years have not yet been reached.

The detailed statement of wages paid in the 14 plants of the American Steel Hoop Company seems to bear out the general conclusions made from the other tables showing the results among combinations. This table shows the rates of wages paid on November 30, 1898, and on November 30, 1899, and the per cent of increase or decrease in the average for each occupation. The figures for the 14 plants show that a total of 4,545 employees received an average wage of $1.93 per day in November, 1898, and that in November, 1899, the number of employees had increased to 5,873, receiving an average of $2.27 per day, a gain in average wages of 17.62 per cent.

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION.

[In several of the occupations the wages shown are average daily piecework earnings, and the increase in wages may be due to increased production in 1899 as well as to increase in piece rates.]

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Ash heavers	3	$1.10	9	$1.25	
	2	1.20	1	1.45	
Average	5	1.14	10	1.27	+11.40
Ash men	1	1.25	1	1.50	
	3	1.40	1	1.60	
	1	1.70	5	1.75	
	.....	.....	2	1.80	
Average	5	1.43	9	1.71½	+19.93
Bend-around bands	2	1.22	2	1.35	
	2	1.26	2	1.40	
Average	4	1.24	4	1.37½	+10.89
Blacksmiths	3	1.50	1	1.65	
	2	1.70	2	1.75	
	4	1.75	1	1.87	
	2	1.80	1	1.92	
	5	2.00	3	2.00	
	1	2.10	2	2.08	
	2	2.25	1	2.20	
	1	2.30	2	2.25	
	3	2.50	1	2.30	
	1	2.60	1	2.40	
	2	2.75	6	2.50	
	1	2.80	3	2.60	
	1	2.85	3	2.70	
	1	3.00	2	3.00	
	.....	.....	1	3.12	
	.....	.....	2	3.15	
	.....	.....	1	3.17	
	.....	.....	1	3.20	
	.....	.....	1	3.38	
	.....	.....	1	4.25	
Average	29	2.12½	36	2.52½	+18.82
Blacksmiths' apprentices	.....	.....	2	1.04	
Blacksmiths' helpers	1	1.10	1	1.15	
	4	1.15	1	1.21	
	8	1.25	2	1.25	
	2	1.26	1	1.30	
	2	1.30	2	1.35	
	1	1.35	1	1.37½	
	4	1.50	3	1.40	
	2	1.60	3	1.46	
	3	1.70	3	1.50	
	.....	.....	1	1.51	
	.....	.....	1	1.56	
	.....	.....	6	1.65	
	.....	.....	1	1.90	
	.....	.....	3	1.95	
Average	27	1.35	29	1.52	+12.59
Bloom boys	2	1.10	2	1.23	
	2	1.20	2	1.40	
	2	1.25	2	1.50	
Average	6	1.18½	6	1.37½	+16.03
Boiler repairers	2	2.10	4	1.92	
	.....	.....	2	2.08	
	.....	.....	2	2.39	
Average	2	2.10	8	2.07½	− 1.19
Boiler repairers' helpers	1	$0.90	2	$1.04	
	2	1.15	2	1.30	
	4	1.75	.....	.....	
Average	7	1.45½	4	1.17	−19.59
Bolt cutters	.....	.....	1	1.00	
Bookkeepers	1	2.39½	.....	.....	
Brakemen, railroad	1	1.08	1	1.20	
	1	1.17	2	1.50	
	2	1.40	1	1.60	
	4	1.70	2	1.80	
	1	1.80	4	1.95	
	5	1.95	4	2.20	
Average	14	1.67	14	1.85½	+11.08
Bricklayers	2	1.90	1	1.82	
	1	2.00	1	2.00	
	1	2.50	2	2.15	
	1	2.68½	1	2.45	
	2	3.00	2	2.50	
	2	3.14	1	2.68½	
	6	3.60	1	2.90	
	1	3.83½	1	3.00	
	2	4.00	1	3.38	
	.....	.....	1	3.43	
	.....	.....	1	3.45	
	.....	.....	1	3.70	
	.....	.....	1	3.83½	
	.....	.....	11	4.00	
	.....	.....	1	4.50	
	.....	.....	1	4.60	
	.....	.....	1	4.68	
Average	18	3.15	29	3.44	+ 9.21
Bricklayers' apprentices	.....	.....	1	1.20	
Bricklayers' helpers	5	1.25	6	1.35	
	4	1.35	1	1.37	
	2	1.40	1	1.40	
	3	1.50	4	1.50	
	.....	.....	2	1.60	
	.....	.....	1	1.65	
	.....	.....	6	1.66	
	.....	.....	1	1.70	
Average	14	1.35½	22	1.51½	+11.81
Buckle boys	2	.59	4	.60	
	.....	.....	2	.65	
Average	2	.59	6	.61½	+ 4.24
Bundlers	7	1.15	10	1.37½	
	10	1.25	2	1.40	
	26	1.30	8	1.50	
	9	1.40	8	1.51	
	11	1.45	3	1.55	
	10	1.50	4	1.60	
	3	1.55	8	1.61	
	6	1.60	6	1.65	
	2	1.62	6	1.70	
	6	1.67	8	1.72	
	1	1.75	13	1.75	
	1	1.78	2	1.80	
	4	1.80	2	1.85	

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Bundlers—Concluded.	2	$1.85	11	$1.90	
	14	1.95	1	1.95	
	2	2.00	1	1.96	
	1	2.10	8	2.00	
	2	2.11	8	2.10	
	.....	.....	6	2.15	
	.....	.....	4	2.20	
	.....	.....	8	2.25	
	.....	.....	2	2.35	
Average....	117	1.51¼	129	1.78¼	+17.82
Bundlers, boss	2	2.15	4	2.50	+16.28
Bundlers and shearmen....	6	1.32	7	1.65	
	4	1.38	13	1.72	
	8	1.52	15	1.90	
	3	1.60	6	2.00	
	4	1.76	4	2.20	
	8	1.83	4	2.29	
	10	2.00	1	2.50	
Average....	43	1.67½	50	1.89½	+13.13
Bundlers and shearmen, boss.....	2	2.00	1	2.24	
	1	4.00	1	2.50	
	1	4.80	2	5.00	
	.....	.....	1	6.00	
Average ...	4	3.20	5	4.15	+29.69
Bundlers' helpers.....	1	1.00	1	1.50	
	7	1.35	9	1.60	
	1	1.53	14	1.70	
	18	1.55	2	1.73	
	1	1.56	1	1.71	
	2	1.58	5	1.75	
	1	1.61	4	1.80	
	2	1.65	2	1.85	
	1	1.75	.....	.....	
	2	2.00	.....	.....	
Average ...	36	1.53¼	38	1.70	+10.75
Car inspectors..	.....	.....	1	1.80	
Carpenters.....	1	1.50	2	1.65	
	2	1.60	2	1.75	
	1	1.67	1	1.82	
	2	1.75	1	1.98	
	2	1.80	2	2.00	
	4	1.90	1	2.08	
	5	2.00	5	2.15	
	1	2.05	1	2.20	
	1	2.12	6	2.25	
	3	2.25	2	2.29	
	1	2.35	1	2.44	
	1	2.50	1	2.60	
	.....	.....	2	2.75	
Average ...	24	1.95	27	2.15¼	+10.51
Carpenters' helpers.....	2	1.20	2	1.25	
	1	1.25	2	1.30	
	1	1.44	2	1.55	
	5	1.60	1	1.65	
	1	1.75	2	1.75	
	.....	.....	3	1.80	
Average ...	10	1.48¼	12	1.56¼	+ 5.39
Casthouse men.	6	1.85	6	1.85	

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Catchers.....	6	$1.04	6	$1.25	
	3	1.12	3	1.30	
	2	1.17	6	1.70	
	2	1.46	2	1.85	
	3	1.50	2	1.93	
	2	1.67	3	2.00	
	2	1.74	2	2.02	
	2	1.75	6	2.10	
	2	1.80	2	2.25	
	5	2.00	2	2.39	
	2	2.23	5	2.50	
	3	2.25	7	2.60	
	2	2.28	4	2.65	
	2	2.40	9	3.00	
	3	2.50	2	3.04	
	2	2.90	4	3.15	
	9	3.00	2	3.25	
	1	3.06	1	3.33	
	2	3.10	1	3.36	
	2	3.30	2	3.39	
	2	3.35	2	3.50	
	5	3.41	14	3.55	
	1	3.44	2	3.58	
	3	3.45	2	3.71	
	9	3.50	2	3.75	
	2	3.57	1	3.80	
	2	3.70	2	3.86	
	1	3.73	1	3.90	
	7	3.75	2	3.93	
	1	3.76	3	4.00	
	4	3.80	1	4.03	
	1	3.84	1	4.14	
	3	4.00	8	4.25	
	5	4.10	1	4.35	
	2	4.20	2	4.50	
	4	4.25	3	4.55	
	2	4.38	2	4.57	
	1	4.50	1	4.67	
	1	5.00	1	4.71	
	2	7.00	4	4.77	
	.....	.....	4	4.90	
	.....	.....	2	5.00	
	.....	.....	2	5.60	
	.....	.....	4	5.80	
	.....	.....	1	6.77	
	.....	.....	1	7.09	
	.....	.....	2	8.40	
Average ...	115	3.01¼	142	3.40¼	+12.94
Chargers	11	1.35	1	1.50	
	1	1.40	2	1.65	
	2	1.60	10	1.78	
	5	1.70	5	1.90	
	6	1.75	3	1.92	
	2	1.80	2	1.95	
	2	1.85	10	2.00	
	3	1.95	1	2.05	
	4	2.00	4	2.20	
	1	2.10	1	2.50	
	2	2.63	1	3.00	
	1	3.00	1	4.00	
	1	3.50	.....	.....	
Average ...	41	1.79	41	2.00¼	+12.01
Chemists	1	1.92½	1	2.16½	
	2	2.64	1	2.71	
	1	2.73½	1	3.25	
	.....	.....	1	3.33½	
Average ...	4	2.48¼	4	2.86½	+15.29
Chill boys	2	1.25	4	1.35	
	1	1.60	2	1.70	
	1	1.65	2	1.75	
	4	1.75	4	1.85	

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Chill boys—Concluded.	4	$1.85	2	$1.90	
	.....	.....	6	1.95	
Average ...	12	1.68	20	1.76	+ 4.76
Chill men.....	4	1.15	8	1.25	
	4	1.60	2	2.00	
	1	1.85	5	2.15	
	1	2.50	2	2.75	
Average ...	10	1.53½	17	1.78	+15.96
Cinder men....	12	1.60	14	1.85	+15.63
Cinder snappers.....	6	1.60	6	1.85	+15.63
Cinder wheelers.....	3	1.15	2	1.45	
	4	1.25	7	1.50	
Average ...	7	1.20½	9	1.49	+23.65
Clerks.....	1	.83½	1	.76½	
	3	1.00	4	1.25	
	1	1.15	1	1.34	
	1	1.25	1	1.38	
	1	1.34	2	1.46	
	3	1.46	2	1.50	
	3	1.50	4	1.53½	
	6	1.53½	1	1.66½	
	1	1.59½	5	1.72½	
	1	1.65	6	1.91½	
	6	1.66½	3	2.08½	
	2	1.72½	5	2.11	
	1	1.75	1	2.29	
	1	1.87½	1	2.30	
	2	1.91½	2	2.49	
	1	1.92½	1	2.68½	
	3	2.08½	2	2.87½	
	1	2.29	1	2.91½	
	9	2.30	1	2.99	
	6	2.50	1	3.33½	
	1	2.68½	1	3.47½	
	3	2.71	2	3.61½	
	1	2.72	1	3.75	
	2	2.87½	1	3.83½	
	1	2.91½	1	4.16½	
	1	3.00	2	4.79	
	1	3.06½	.....	.....	
	1	3.25	.....	.....	
	2	3.33½	.....	.....	
	1	3.75	.....	.....	
	1	3.83½	.....	.....	
	1	4.79	.....	.....	
	2	4.83½	.....	.....	
	1	5.75	.....	.....	
	1	6.41½	.....	.....	
Average ...	73	2.30½	53	2.23½	− 3.04
Coilers.....	2	1.20	2	1.40	+16.67
Coke drawers..	35	1.89	31	2.12	+12.17
Coke fillers	31	1.65	31	1.90	+15.15
Conductors, railroad.....	1	2.00	1	2.40	+20.00
Contractors (net earnings)	2	10.00	1	10.00	
	.....	.....	2	15.00	
Average ...	2	10.00	3	13.33½	+33.33
Count-outs.....	2	1.30	2	1.50	
	.....	.....	4	1.75	
Average ...	2	1.30	6	1.66½	+28.08
Crane boys.....	2	1.20	2	1.25	+ 4.17
Cut-offs.....	1	$0.90	2	$1.50	
	1	1.20	.....	.....	
	1	2.05	.....	.....	
Average ...	3	1.38½	2	1.50	+ 8.30
Dippers.....	2	2.50	1	2.00	
	.....	.....	3	2.75	
Average ...	2	2.50	4	2.56¼	+ 2.60
Door boys	2	.50	2	.55	+10.00
Draftsmen.....	1	.76½	1	1.53½	
	1	3.26	1	3.83½	
	1	3.45	1	4.21½	
Average ...	3	2.49	3	3.19½	+28.31
Drag-downs ...	2	1.35	2	1.50	
	3	1.50	2	1.65	
	2	1.62	8	1.80	
	3	1.75	12	2.00	
	2	1.80	2	2.05	
	6	1.85	1	2.50	
	2	1.90	.....	.....	
	1	2.09	.....	.....	
	1	2.45	.....	.....	
Average ...	22	1.76	27	1.90	+ 7.95
Drag-outs.....	4	1.20	4	1.40	
	6	1.25	12	1.50	
	4	1.26	4	1.53	
	4	1.30	2	2.00	
	2	1.50	4	2.56	
	2	1.60	2	2.60	
Average ...	22	1.30½	28	1.75½	+34.48
Drivers, coal mine	1	1.45	1	1.65	
	19	1.70	13	1.90	
Average ...	20	1.68½	14	1.88	+11.57
Drivers, boss, coal mine ...	1	1.80	1	2.00	+11.11
Dummy boys ..	4	.80	2	.85	
	1	.90	2	.90	
	.....	.....	4	1.00	
Average ...	5	.82	8	.93½	+14.02
Edge-up hands.	1	1.00	2	1.20	
	4	1.15	2	1.25	
	.....	.....	2	1.35	
Average ...	5	1.12	6	1.26¼	+12.95
Electricians ...	1	2.10	1	2.40	
	.....	.....	1	2.50	
Average ...	1	2.10	2	2.45	+16.67
Engineers, chief	1	5.00	1	5.17½	+ 3.50
Engineers, locomotive	1	1.70	1	1.90	
	2	1.80	2	1.95	
	1	2.00	1	2.40	
	7	2.35	7	2.65	
Average ...	11	2.16	11	2.43	+12.50

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Engineers, stationary	2	$1.25	2	$1.37½	
	2	1.40	2	1.54	
	1	1.45	4	1.60	
	11	1.50	3	1.66	
	3	1.60	7	1.75	
	6	1.65	2	1.76	
	2	1.70	8	1.90	
	9	1.75	7	2.00	
	4	1.80	2	2.03	
	5	1.90	11	2.08	
	9	2.00	2	2.10	
	2	2.10	2	2.20	
	5	2.15	2	2.24	
	1	2.20	8	2.34	
	1	2.25	9	2.35	
	13	2.35	7	2.40	
	3	2.50	1	2.45	
	1	2.62½	3	2.50	
	1	2.70	18	2.55	
	2	2.80	1	2.60	
	1	2.85	1	2.62	
	1	3.00	3	2.65	
	1	3.75	1	2.70	
	.....	.....	1	3.00	
	.....	.....	1	3.14½	
	.....	.....	1	3.25	
	.....	.....	1	3.45	
	.....	.....	1	3.95	
Average ...	86	1.97½	111	2.23	+12.91
Errand boys ...	1	.33½	1	.58	
	1	.50	1	.60	
	.....	.....	3	.83½	
Average ...	2	.41½	5	.73½	+77.11
Fagot makers ..	10	.90	10	1.05	
	1	1.00	1	1.20	
	10	1.10	16	1.30	
	1	1.15	1	1.35	
	4	1.20	17	1.37	
	12	1.30	1	1.38	
	3	1.35	3	1.40	
	3	1.40	1	1.61	
	1	1.61	2	1.62	
Average ...	45	1.16½	52	1.30	+11.59
Farmers	1	1.15	1	1.34	+16.52
Feeders	2	1.21½	2	1.35	+11.11
Finishers	2	1.26	2	1.40	
	2	1.35	2	1.50	
	2	1.40	2	1.55	
	1	1.50	2	1.75	
Average ...	7	1.36	8	1.55	+13.97
Firemen, furnace	10	1.25	3	1.40	
	3	1.26	2	1.45	
	2	1.45	6	1.50	
	3	1.60	2	1.55	
	1	1.75	1	1.65	
	.....	.....	4	1.75	
	.....	.....	1	2.00	
Average ...	19	1.35½	19	1.57	+15.87
Firemen, locomotive	2	1.10	1	1.10	
	1	1.35	1	1.50	
	3	1.65	3	1.90	
Average ...	6	1.41½	5	1.66	+17.31

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Firemen, stationary	4	$1.35	2	$1.48	
	3	1.40	5	1.50	
	2	1.45	5	1.56	
	34	1.50	2	1.59	
	3	1.53	16	1.60	
	2	1.55	5	1.70	
	13	1.60	2	1.71	
	13	1.65	19	1.72	
	4	1.80	10	1.75	
	12	1.85	14	1.80	
	2	2.00	4	1.90	
	.....	.....	10	1.95	
	.....	.....	14	2.00	
Average ...	92	1.59½	108	1.75½	+10.03
Flaring machine hands.	8	.75	1	.75	
	1	.85	5	.85	
	2	.95	1	.95	
	1	1.00	1	1.00	
	3	1.15	1	1.25	
	3	1.25	1	1.40	
	2	1.60	1	1.50	
	.....	.....	1	1.75	
	.....	.....	2	1.90	
Average ...	20	1.00½	14	1.19	+18.41
Floor hands ...	.....	.....	4	1.80	
Foremen, blacksmiths	1	4.00	1	4.25	
	.....	.....	1	4.60	
Average ...	1	4.00	2	4.42½	+10.63
Foremen, bundlers	2	2.00	1	2.00	
	1	2.33½	1	2.25	
	1	3.12½	2	2.50	
	1	3.25	1	3.33½	
	.....	.....	1	3.75	
Average ...	5	2.54	6	2.72½	+ 7.28
Foremen, flaring machines	.....	.....	1	2.45	
Foremen, gas makers	2	2.50	1	3.50	+40.00
Foremen, general	1	2.36	1	2.68½	
	1	3.50	2	3.11	
	2	3.66½	1	3.22	
	3	4.66½	1	4.00	
	.....	.....	1	4.20	
	.....	.....	2	4.61	
	.....	.....	2	5.00	
	.....	.....	1	5.50	
Average ...	7	3.88½	11	4.09½	+ 5.41
Foremen, hinge department ..	1	3.50	1	3.50	
Foremen, laborers	1	1.25	3	1.40	
	1	1.35	1	1.66½	
	1	1.40	1	1.75	
	1	1.60	6	1.77	
	1	1.65	1	1.81	
	3	1.75	1	1.86½	
	1	1.91½	2	1.98	
	2	2.00	3	2.00	
	1	2.11	1	2.11	
	1	2.35	1	2.35	

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Foremen, laborers—Concl'd.	1	$2.57	1	$2.35	
	1	2.67	1	2.50	
	1	3.33	1	2.87½	
	.....	.....	1	3.06½	
	.....	.....	1	3.66½	
Average ...	16	1.96½	25	2.02½	+ 3.05
Foremen, laborers, assistant.	.....	.....	1	1.80	
	.....	.....	2	2.00	
Average ...	.....	.....	3	1.93½	
Foremen, machinists.....	.....	.....	1	3.50	
Foremen, painting cotton ties.....	1	5.00	.....	.....	
Foremen, pit men.....	2	1.75	2	2.85	+62.86
Foremen, railroad	1	1.25	1	1.40	
	1	1.60	1	1.85	
Average ...	2	1.42½	2	1.62½	+14.04
Foremen, roll turners.....	1	6.50	1	6.50	
Foremen, stockers	1	2.10	1	2.65	
	1	3.50	1	3.50	
Average ...	2	2.80	2	3.07½	+ 9.82
Foremen, stock house	1	2.27½	1	2.50	
	1	2.58½	2	3.41¼	
	1	2.76	.....	.....	
Average ...	3	2.54	3	3.11	+22.44
Foremen, unloaders.....	1	3.50	1	3.82½	+ 9.29
Foremen, warehousemen....	.....	.....	1	2.25	
Foremen, yard.	1	3.10½	1	1.70	
	.....	.....	1	3.83½	
Average ...	1	3.10½	2	2.76½	−10.95
Foremen, yard, assistant	1	1.48	1	1.65	+11.49
Gas makers	2	1.15	2	1.40	
	1	1.20	4	1.50	
	2	1.40	4	1.65	
	6	1.50	2	1.67	
	11	1.56	6	1.70	
	4	1.58	5	1.75	
	3	1.65	6	1.77	
	11	1.75	11	1.90	
	2	1.80	2	1.98	
	1	2.00	4	2.00	
	1	2.25	1	2.20	
Average ...	44	1.61	47	1.77½	+10.25
Gatemen.....	7	1.00	1	1.00	
	3	1.20	4	1.20	
	1	1.40	2	1.25	
	.....	.....	1	1.30	
	.....	.....	1	1.45	
	.....	.....	1	1.55	
Average ...	*11*	*1.09*	*10*	1.26	+15.60
Gauge boys	2	$0.80	4	$1.00	
	2	1.00	4	1.15	
Average ...	4	.90	8	1.07½	+19.44
Gaugers	4	1.25	4	1.37½	
	2	1.50	2	1.72	
	3	2.00	4	1.85	
	2	2.11	2	2.35	
	.....	.....	4	3.00	
Average ...	11	1.65½	16	2.06½	+24.77
General work boys.....	6	.50	6	.50	
	6	.75	9	.90	
Average ...	12	.62½	15	.74	+18.40
Greasers	9	.50	9	.60	
	1	1.15	1	1.15	
	3	1.25	3	1.35	
	1	1.40	2	1.40	
	1	1.44	1	1.60	
	3	1.50	3	1.65	
	1	1.80	2	1.80	
	.....	.....	1	2.00	
Average ...	19	.97½	22	1.16	+18.97
Grinders	1	1.50	1	1.65	+10.00
Hand-in hands	5	.70	2	.88	
	2	.80	1	.93	
	.....	.....	1	1.10	
Average ...	7	.73	4	.94½	+29.45
Hand-over boys	.....	.....	4	.80	
Hand-ups	6	1.25	6	1.25	
Heaters.....	1	3.00	2	3.50	
	2	3.02	2	3.83½	
	2	3.13	1	3.92	
	2	3.25	3	4.00	
	2	3.30	2	4.03	
	3	3.50	4	4.41	
	2	3.53	4	4.50	
	6	3.80	2	4.55	
	2	3.83½	2	4.63	
	3	3.90	1	4.65	
	9	4.00	1	4.70	
	4	4.15	1	4.82	
	1	4.22	2	5.05	
	4	4.25	1	5.07	
	1	4.27	1	5.21	
	3	4.50	4	5.30	
	1	4.57	1	5.35	
	1	4.61	1	5.40	
	1	4.70	3	5.53	
	1	4.77	4	5.60	
	1	4.78	1	5.71	
	5	5.00	5	5.75	
	1	5.05	1	5.81	
	3	5.25	1	5.91	
	1	5.35	1	5.98	
	2	5.43	2	6.00	
	1	5.48	3	6.25	
	2	5.63½	1	6.46	
	1	5.74	4	6.50	
	1	5.80	2	6.55	
	4	6.00	1	6.63	
	3	6.50	4	6.67	
	2	6.79	1	6.72	
	2	6.83	1	6.95	
	2	7.00	1	7.08	
	1	7.11	4	7.10	
	3	8.00	1	7.20	
	1	9.00	2	7.40	

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Heaters—Concluded.	.....	.....	1	$7.43	
	.....	.....	2	7.50	
	.....	.....	6	7.54	
	.....	.....	2	7.59	
	.....	.....	2	7.60	
	.....	.....	1	7.75	
	.....	.....	2	7.76	
	.....	.....	1	7.92	
	.....	.....	1	8.00	
	.....	.....	1	8.50	
	.....	.....	1	8.51	
	.....	.....	1	8.75	
	.....	.....	2	9.00	
	.....	.....	3	10.00	
	.....	.....	1	11.00	
	.....	.....	3	12.00	
Average ...	87	$4.81	108	6.38	+32.64
Heaters' helpers	2	1.10	2	1.00	
	7	1.25	9	1.75	
	8	1.50	2	1.80	
	1	1.55	2	1.85	
	2	1.57	20	2.00	
	16	1.75	4	2.20	
	2	1.90	5	2.25	
	16	2.00	2	2.42	
	4	2.05	10	2.47	
	1	2.27	11	2.50	
	10	2.50	3	2.60	
	1	2.56	1	2.65	
	2	2.60	4	2.68	
	1	2.65	2	2.75	
	10	2.70	1	2.82	
	2	3.00	11	2.85	
	4	3.12	4	3.00	
	2	3.13	6	3.20	
	7	3.25	4	3.25	
	2	3.30	3	3.50	
	3	3.50	1	3.64	
	1	4.50	4	3.74	
	.....	.....	2	3.76	
	.....	.....	6	3.90	
	.....	.....	3	4.00	
	.....	.....	1	4.16	
	.....	.....	1	4.50	
	.....	.....	1	7.00	
Average ...	104	2.24½	125	2.68	+19.38
Hoisters.....	1	1.44	1	1.60	
	1	1.50	1	1.65	
Average ...	2	1.47	2	1.62½	+10.54
Hook-ins.....	1	1.17	1	1.30	+11.11
Hook-ups	2	.80	2	1.20	
	3	.90	2	1.35	
	2	1.13	2	1.37½	
	4	1.20	8	1.50	
	2	1.25	2	1.53	
	6	1.35	10	1.60	
	2	1.40	4	1.70	
	2	1.50	2	1.75	
	2	1.60	4	1.89	
	1	1.65	1	1.90	
	4	1.70	6	2.00	
	1	1.77	1	2.16	
	7	1.80	4	2.25	
	1	1.94	2	2.26	
	1	1.95	.....	.....	
Average ...	40	1.44	50	1.72½	+19.79

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Iron loaders ...	.....	.....	5	$1.50	
	.....	.....	1	3.43	
Average ...	.....	.....	6	1.82	
Janitors	1	$1.00	1	.61½	
	1	1.50	1	1.25	
Average ...	2	1.25	2	.93½	−25.20
Janitresses	1	.37½	1	.83½	
	.....	.....	1	.90½	
Average ...	1	.37½	2	.87	+132.00
Keepers, furnace.....	2	2.10	2	2.40	
	4	2.20	4	2.50	
Average ...	6	2.16½	6	2.46½	+13.86
Keepers' helpers, furnace .	24	1.70	24	1.95	+14.71
Laborers	3	1.05	2	1.10	
	68	1.10	102	1.15	
	4	1.12½	20	1.21	
	164	1.15	16	1.25	
	233	1.25	30	1.30	
	124	1.35	321	1.35	
	1	1.37	137	1.40	
	1	1.38	185	1.50	
	1	1.39	3	1.51	
	46	1.40	3	1.53	
	1	1.41	1	1.54	
	13	1.44	72	1.55	
	4	1.50	2	1.56	
	1	1.53	1	1.57½	
	20	1.60	63	1.60	
	6	1.70	1	1.65	
	.....	.....	1	1.70	
	.....	.....	1	1.72	
	.....	.....	31	1.75	
	.....	.....	1	1.76	
	.....	.....	3	1.90	
Average ...	690	1.26	996	1.40½	+11.51
Laborers, railroad	19	1.35	19	1.55	+14.81
Laborers, stock house.....	5	1.35	8	1.55	
	4	1.40	9	1.75	
	12	1.50	12	1.90	
	4	1.65	.....	.....	
Average ...	25	1.48	29	1.75½	+18.58
Ladle men	2	2.45	2	2.60	+ 6.12
Ladle men's helpers (boys)	.....	.....	2	.85	
Lay-offs	2	.80	4	.95	
	2	.85	24	1.00	
	17	.90	12	1.10	
	8	1.00	4	1.20	
	6	1.10	10	1.25	
	4	1.50	4	1.65	
	.....	.....	4	1.75	
Average ...	39	1.00½	62	1.16	+15.42

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HO
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—C

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Lay-overs	5	$0.75	5	$0.75	
	3	.90	3	1.00	
	5	1.00	4	1.10	
Average	13	.88	12	.93	+ 5.68
Lever boys	1	.50	.....	.....	
Lever men	3	.60	5	1.30	
	2	1.08	2	1.35	
	1	1.15	2	1.75	
	2	1.50	.....	.....	
Average	8	1.01½	9	1.41	+38.92
Limestone breakers	6	1.35	5	1.55	
	5	1.50	7	1.75	
	1	1.65	.....	.....	
Average	12	1.43½	12	1.66½	+16.03
Loaders, iron	4	1.15	4	1.25	
	16	1.25	20	1.40	
Average	20	1.23	24	1.37½	+11.79
Machinists	1	1.75	1	1.80	
	1	1.80	2	2.10	
	1	1.85	1	2.15	
	1	1.95	1	2.20	
	2	2.00	3	2.25	
	7	2.25	1	2.34	
	1	2.35	1	2.47	
	1	2.40	5	2.50	
	7	2.50	3	2.60	
	3	2.70	2	2.66½	
	1	2.74	1	2.70	
	1	2.75	3	2.75	
	1	2.79	1	2.90	
	1	2.92	2	3.00	
	1	3.45	1	3.25	
	1	4.60	1	3.38	
	.....	.....	1	3.83½	
	.....	.....	1	4.00	
	.....	.....	1	4.60	
Average	31	2.47½	32	2.70	+ 9.09
Machinists' apprentices	2	.75	2	.75	
	1	1.25	1	1.00	
	2	1.40	2	1.50	
	1	1.50	1	1.75	
	2	1.60	3	2.00	
	3	1.85	.....	.....	
	2	2.15	.....	.....	
Average	13	1.54½	9	1.47	— 4.85
Machinists' helpers	1	1.25	1	1.25	
	2	1.50	1	1.30	
	.....	.....	2	1.40	
	.....	.....	4	1.50	
	.....	.....	1	1.75	
	.....	.....	1	1.90	
Average	3	1.41½	10	1.50	+ 6.01
Markers	1	1.00	1	1.50	
	1	1.25	1	1.75	
	1	1.50	.....	.....	
Average	3	1.25	2	1.62½	+30.00

Occupations.	Nov. 30, 1898.		Nov.
	Employees.	Rates of wages.	Employees.
Masons	1	$2.00	1
	1	2.50	1
	.....	.....	1
Average	2	2.25	3
Masons' helpers	1	1.25	1
Master machinists	1	5.62	.....
Melters, steel	1	5.00	1
	1	7.75	1
Average	2	6.37½	2
Melters' helpers, steel	1	3.00	2
Metal carriers	33	2.62½	34
Metal stockers	18	1.50	20
	4	2.19	4
Average	22	1.62½	24
Millwrights	1	1.44	2
	2	1.50	1
	1	1.66	1
	1	1.75	1
	1	1.80	1
	1	1.90	3
	1	1.91½	1
	1	2.45	1
	3	2.50	3
	1	2.70	1
	1	3.06½	2
	1	3.45	2
	2	3.75	1
	.....	.....	1
	.....	.....	2
	.....	.....	1
	.....	.....	1
	.....	.....	1
	.....	.....	1
	.....	.....	1
Average	17	2.36	28
Millwrights' helpers	3	1.15	1
	1	1.25	1
	3	1.75	1
	2	2.00	1
	.....	.....	1
	.....	.....	3
	.....	.....	2
	.....	.....	1
	.....	.....	1
	.....	.....	1
	.....	.....	1
Average	9	1.55	14
Miners	90	1.82	90
Modoc men	12	1.70	12
Molders	1	1.95	1
Muck bar weighmen	2	2.80	2
Muck bar weighmen's helpers	2	1.58	2
Oilmen	1	1.10	1

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Ore crushers	1	$2.00	1	$1.45	
	1	2.54	1	1.55	
	.....	.....	1	1.60	
	.....	.....	1	1.93	
	.....	.....	1	2.82	
Average	2	2.27	5	1.87	−17.62
Ore crushers' helpers	1	1.35	1	1.50	+11.11
Ore fillers	43	1.65	45	1.90	+15.15
Ore wheelers	2	1.08	2	1.20	
	1	1.15	1	1.35	
	.....	.....	2	1.45	
	.....	.....	2	1.50	
Average	3	1.10½	7	1.38	+24.89
Painting cotton ties	3	2.25	.....	.....	
Pickling and liming	3	1.15	5	1.40	
	1	1.40	3	1.50	
	1	1.60	.....	.....	
Average	5	1.29	8	1.43½	+11.24
Pile boys	16	.60	4	.60	
	.....	.....	12	.75	
	.....	.....	6	.80	
Average	16	.60	22	.73½	+22.50
Pilers, iron	2	1.12½	2	1.25	
	1	1.15	2	1.30	
	2	1.17	6	1.50	
	3	1.25	5	1.60	
	4	1.50	.....	.....	
Average	12	1.29	15	1.47½	+14.34
Pipe fitters	1	1.75	1	2.25	+28.57
Pit bosses	1	3.45	1	3.83½	+11.16
Pit bosses, assistant	1	2.25	1	2.50	+11.11
Pit men	6	1.80	2	1.80	
	1	1.90	6	1.90	
	.....	.....	2	2.00	
Average	7	1.81½	10	1.90	+ 4.68
Planishing rollers	4	.90	4	.95	
	4	1.00	4	1.00	
	2	1.25	2	1.10	
	3	1.50	2	1.15	
	2	1.75	1	1.25	
	.....	.....	2	1.35	
	.....	.....	3	1.50	
	.....	.....	2	1.60	
	.....	.....	2	1.90	
	.....	.....	4	2.05	
	.....	.....	4	2.25	
Average	15	1.20½	30	1.50	+24.48
Poke-ins	1	1.00	2	1.25	
	1	1.10	1	1.30	
	4	1.17	22	1.40	
	5	1.20	3	1.45	
	8	1.25	2	1.60	
	2	1.30	2	1.75	
	2	1.50	2	1.98	
	3	1.60	7	2.00	
Poke-ins—Concluded.	4	$1.67	2	$2.10	
	2	1.75	2	2.25	
	2	1.80	.....	.....	
	2	1.90	.....	.....	
	2	2.00	.....	.....	
Average	38	1.44	45	1.60½	+11.46
Pressmen	3	.83½	3	.83½	
	6	1.00	6	1.20	
Average	9	.94½	9	1.08	+14.29
Pressmen, head	1	2.00	1	2.25	+12.50
Puddlers	22	2.50	8	2.75	
	38	2.57	83	2.85	
	40	2.76	33	3.40	
	46	3.14	4	3.50	
	48	3.20	3	3.75	
	8	3.40	11	3.90	
	76	3.70	60	3.96	
	7	4.00	58	4.00	
	3	4.50	48	4.18	
	1	5.50	1	4.50	
	.....	.....	138	4.60	
	.....	.....	2	5.00	
	.....	.....	2	6.00	
Average	289	3.17	451	3.92½	+23.82
Puddlers, boss	1	1.91½	1	2.30	
	1	2.00	1	2.50	
	1	2.51	1	2.78	
	2	2.87½	2	2.87½	
	1	3.45	1	3.83½	
	1	3.50	1	4.00	
	1	5.17½	1	5.75	
Average	8	3.03½	8	3.36½	+10.87
Puddlers' helpers	38	1.28	83	1.42½	
	40	1.60	10	2.25	
	48	1.67	60	2.27	
	68	1.80	33	2.35	
	76	2.00	54	2.40	
	6	2.75	48	2.42	
	7	3.00	10	2.50	
	6	3.75	10	2.65	
	.....	.....	46	2.67	
	.....	.....	92	2.68	
	.....	.....	5	2.75	
Average	289	1.82½	451	2.29½	+25.75
Pull-ups	4	.50	4	.66	
	1	.60	2	.75	
	2	1.08	2	.85	
	6	1.10	2	1.20	
	2	1.25	7	1.30	
Average	15	.92½	17	1.02	+10.27
Pump tenders	1	1.30	1	1.60	
	2	1.75	2	2.00	
Average	3	1.60	3	1.86½	+16.56
Punchers	2	1.00	1	1.00	
	.....	.....	1	1.10	
Average	2	1.00	2	1.05	+ 5.00
Push-downs	.....	.....	4	1.50	
Push-ups	.....	.....	8	1.65	

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HO
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—C

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Riveters	5	$0.67	5	$0.75	
	1	.75	2	.90	
	1	1.00	1	1.20	
Average	7	.73	8	.84½	+15.75
Rollers	3	1.50	2	1.55	
	2	1.75	4	1.70	
	3	1.90	2	1.75	
	3	2.00	4	1.90	
	4	2.20	5	2.10	
	1	2.25	5	2.50	
	4	2.37½	2	2.80	
	4	2.92	1	2.90	
	2	3.00	10	3.00	
	1	3.12	3	3.17	
	2	3.33	4	3.24	
	2	3.50	7	3.50	
	1	3.56	2	3.75	
	3	4.00	2	4.00	
	1	4.40	5	4.50	
	11	4.50	1	4.75	
	2	4.75	2	4.86	
	1	4.84	7	5.00	
	4	5.00	1	5.04	
	1	5.33	1	5.38½	
	2	5.50	2	5.50	
	1	5.60	1	5.92	
	1	5.62	2	6.00	
	1	5.65	1	6.24	
	1	5.74	1	6.46	
	1	5.94	1	6.48	
	3	6.00	1	6.60	
	1	6.02	1	6.60½	
	1	6.16	1	6.65	
	1	6.21	2	6.85	
	1	6.39	1	6.90	
	3	6.50	2	7.00	
	2	6.70	1	7.10	
	1	6.71	1	7.13	
	2	6.75	1	7.50	
	1	7.00	1	7.67	
	1	7.04	2	7.73	
	2	7.77	1	7.80	
	4	8.00	1	7.82	
	1	8.01	1	7.87	
	1	8.25	4	8.00	
	2	8.50	1	8.30	
	3	9.00	1	8.40	
	1	9.25	1	8.42	
	2	12.00	1	8.55	
	.....	.....	2	8.63	
	.....	.....	3	8.65	
	.....	.....	1	9.00	
	.....	.....	1	9.26½	
	.....	.....	1	10.00	
	.....	.....	1	10.09	
	.....	.....	1	10.38	
	.....	.....	1	10.44	
	.....	.....	3	11.00	
	.....	.....	4	12.00	
	.....	.....	1	12.50	
	.....	.....	1	13.77	
	.....	.....	1	13.83	
	.....	.....	1	14.89	
	.....	.....	2	15.00	
	.....	.....	1	15.47	
	.....	.....	1	18.00	
Average	95	4.99½	129	5.93½	+18.82
Rollers, assistant	1	1.75	2	1.75	
	1	1.80	1	2.00	
	2	1.88	1	2.25	
	2	2.00	2	2.50	
	1	2.25	1	2.75	
	2	2.50	3	3.00	

Occupations.	Nov. 30, 1898.		Nov.
	Employees.	Rates of wages.	Employees.
Rollers, assistant—Concl'd.	1	$2.75	2
	2	2.97	2
	.....	.....	4
	.....	.....	4
	.....	.....	1
Average	12	2.27	23
Rollers, boss	5	4.00	1
	1	5.25	2
	1	5.50	1
	1	5.75	1
	1	6.00	1
	1	7.00	1
	1	7.35	1
	1	7.98½	1
	1	9.00	.....
	1	11.50	.....
	1	16.20	.....
	1	20.84	.....
Average	16	7.65	9
Rollers' helpers	1	2.00	1
	6	2.50	2
	1	3.00	1
	.....	.....	1
	.....	.....	1
Average	8	2.50	6
Roll hands	2	.80	15
	2	1.00	4
	10	1.15	10
	3	1.25	1
	4	1.50	.....
	6	2.00	.....
	1	2.25	.....
Average	28	1.39½	30
Roll turners	1	1.75	1
	1	2.00	2
	1	2.25	2
	2	2.40	2
	1	2.50	1
	5	2.70	1
	5	2.75	2
	1	2.80	2
	1	2.90	17
	6	3.00	1
	3	3.50	3
	1	3.73½	1
	1	3.95	2
	3	5.00	1
	.....	.....	1
	.....	.....	1
	.....	.....	1
	.....	.....	2
	.....	.....	2
	.....	.....	1
	.....	.....	1
	.....	.....	1
Average	32	3.04½	48
Roll turners' apprentices	2	1.00	2
	1	1.25	2
	1	1.40	1
	1	1.50	5
	2	1.75	2
	2	1.80	2
	2	2.00	.....
Average	11	1.57	14

a Per day at tonnage rates.

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THIER ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Roll turners' helpers	1	$1.50	1	$1.75	
	1	2.00	1	2.50	
	1	2.50	1	3.00	
Average	3	2.00	3	2.41¼	+20.75
Roughers	2	1.17	2	2.34	
	2	1.75	2	2.52	
	2	1.95	1	2.64	
	1	2.00	3	2.75	
	1	2.20	2	2.82	
	6	2.25	4	2.88	
	2	2.28	3	2.97	
	6	2.30	1	3.00	
	2	2.35	2	3.04	
	5	2.45	4	3.10	
	3	2.48	4	3.12	
	1	2.50	2	3.14	
	2	2.52	4	3.23	
	1	2.57	1	3.25	
	2	2.68	1	3.33	
	4	2.80	2	3.36	
	4	2.81	1	3.39	
	3	2.89	9	3.42	
	2	2.90	9	3.50	
	4	2.96	3	3.55	
	4	3.00	1	3.58	
	2	3.06	3	3.60	
	1	3.08	4	3.66	
	1	3.10	2	3.71	
	2	3.20	4	3.75	
	5	3.25	4	3.77	
	3	3.27	4	3.79	
	4	3.30	5	3.80	
	2	3.35	2	3.86	
	4	3.39	9	3.90	
	4	3.40	6	3.93	
	1	3.41	2	3.97	
	2	3.44	6	4.00	
	3	3.50	2	4.03	
	5	3.54	2	4.04	
	2	3.57	9	4.10	
	1	3.60	4	4.13	
	2	3.70	8	4.23	
	5	3.75	5	4.25	
	1	3.76	2	4.30	
	4	3.85	3	4.48	
	2	3.97	4	4.50	
	7	4.00	1	4.53	
	2	4.20	2	4.58	
	3	4.75	1	4.66	
	.....	.....	1	4.67	
	.....	.....	1	4.71	
	.....	.....	4	4.77	
	.....	.....	2	5.00	
	.....	.....	2	5.60	
	.....	.....	3	6.00	
Average	127	3.08	168	3.80¼	+23.54
Run-outs	1	1.10	1	1.30	
	1	1.15	1	1.35	
	1	1.25	2	1.56	
Average	3	1.16¼	4	1.44¼	+24.03
Salesmen, traveling	2	3.19¼	.....	.....	
	1	4.79	.....	.....	
Average	3	3.72¼	.....	.....	
Sanders-up	6	1.50	1	1.65	
	.....	.....	6	1.75	
Average	6	1.50	7	1.73¼	+15.67
Scale men	12	$1.70	12	$1.95	+14.71
Scale wheelers	3	1.37	3	1.50	+ 9.49
Scrap boys	.....	.....	1	.60	
	.....	.....	1	.85	
	.....	.....	1	1.00	
Average	.....	.....	3	.81¼	
Scrapers	3	.65	4	.70	
	3	.90	4	1.04	
	1	1.00	1	1.10	
	2	1.04	4	1.15	
	3	1.25	3	1.25	
	1	1.30	2	1.30	
	4	1.45	3	1.50	
	4	1.50	1	1.60	
	5	1.60	2	1.98	
	.....	.....	2	2.50	
Average	26	1.25¼	26	1.31	+ 4.38
Scrappers, cast house	2	1.40	2	1.65	+17.86
Scrappers, stock house	4	1.35	4	1.55	
	2	1.50	2	1.75	
Average	6	1.40	6	1.61¼	+15.36
Shearmen	2	1.15	1	1.25	
	14	1.20	2	1.40	
	8	1.25	21	1.50	
	1	1.30	1	1.56	
	2	1.37¼	18	1.60	
	4	1.40	1	1.61	
	1	1.43	12	1.65	
	6	1.45	4	1.66	
	8	1.46	4	1.67	
	1	1.47	1	1.68	
	4	1.48	40	1.70	
	2	1.49	2	1.71	
	18	1.50	2	1.72	
	20	1.55	1	1.74	
	2	1.58	22	1.75	
	4	1.59	1	1.78	
	16	1.60	5	1.80	
	1	1.65	2	1.82	
	10	1.66	4	1.84	
	1	1.67	9	1.85	
	2	1.68	14	1.90	
	2	1.70	1	1.92	
	2	1.71	1	1.94	
	1	1.72	11	1.95	
	1	1.74	7	1.99	
	14	1.75	22	2.00	
	4	1.80	4	2.05	
	1	1.82¼	6	2.10	
	8	1.83	6	2.15	
	10	1.85	8	2.20	
	4	1.89	20	2.25	
	2	1.90	8	2.29	
	1	1.91	3	2.35	
	6	1.95	1	2.40	
	7	2.00	2	2.45	
	2	2.03	2	2.50	
	1	2.10	2	2.60	
	4	2.11	2	3.00	
	2	2.15	1	3.50	
	3	2.40	.....	.....	
	1	2.42	.....	.....	
	1	2.60	.....	.....	
	1	3.50	.....	.....	
Average	205	1.65	274	1.87¼	+13.64

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Con

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Shearmen, boss	1	$5.50	1	$8.00	+45.45
Shippers	1	2.87½	1	2.68½	
	1	3.19½	1	3.06½	
Average	2	3.03½	2	2.87½	− 5.27
Shippers, assistant	1	.76½	1	1.15	+50.33
Slag men	2	1.05	2	1.70	
	1	1.80	1	1.75	
Average	3	1.30	3	1.71½	+31.92
Stable bosses	1	1.55½	1	1.72½	
	.....	.....	1	2.30	
Average	1	1.55½	2	2.01½	+29.58
Stable men	1	1.75	1	1.85	+ 5.71
Stamping-machine boys	12	.60	12	.60	
Stenographers	1	1.44	1	2.53	
	1	2.50	.....	.....	
Average	2	1.97	1	2.53	+28.43
Stockers, coal	1	1.25	1	1.50	
	1	1.59	5	1.60	
	1	1.60	2	1.75	
	1	1.82	2	2.00	
	.....	.....	1	4.26	
Average	4	1.56½	11	1.93½	+23.64
Stockers, metal	.....	.....	2	1.35	
	.....	.....	6	1.65	
	.....	.....	4	1.75	
	.....	.....	1	2.00	
Average	.....	.....	13	1.66	
Stockers, mill	10	1.35	12	1.40	
	3	1.50	4	1.70	
Average	13	1.38½	16	1.47½	+ 6.50
Stockers to catchers	2	1.17	2	1.30	
	1	1.26	1	1.40	
Average	3	1.20	3	1.33½	+11.25
Stockers to shearmen	2	1.35	2	1.55	
	1	1.58	1	1.75	
Average	3	1.42½	3	1.61½	+13.33
Stocking and grinding ore	1	1.75	1	2.70	+54.29
Stoppers	2	1.00	2	1.20	+20.00
Storekeepers	1	1.70	1	1.00	
	2	1.72½	1	1.90	
	.....	.....	1	1.91½	
Average	3	1.71½	3	1.60½	− 6.41
Storeroom hands	1	2.00	1	1.75	
	.....	.....	1	2.00	
Average	1	2.00	2	1.87½	− 6.25

Occupations.	Nov. 30, 1898.		Nov. 30,
	Employees.	Rates of wages.	Employees.
Stove men	2	$1.90	2
	4	1.95	4
Average	6	1.93½	6
Straighteners	4	.68	3
	6	.72	4
	6	.77	6
	23	.80	6
	2	.90	6
	7	1.00	10
	16	1.15	5
	1	1.17	3
	9	1.20	1
	2	1.45	11
	1	1.50	8
	2	1.72	11
	3	1.85	6
	2	2.25	6
	.....	.....	2
	.....	.....	2
Average	84	1.03½	90
Stranners	4	1.08	2
	1	1.10	4
	1	1.15	10
	4	1.20	11
	2	1.22	7
	11	1.25	6
	9	1.28	14
	4	1.30	4
	3	1.32	11
	12	1.35	17
	6	1.45	7
	20	1.50	2
	7	1.60	9
	5	1.66	2
	2	1.68	2
	7	1.75	10
	9	1.80	7
	1	1.85	3
	4	1.88	2
	9	2.00	3
	6	2.25	8
	.....	.....	8
	.....	.....	4
	.....	.....	4
	.....	.....	6
Average	127	1.54	163
Tap cinder men	2	1.45	5
Teamsters	5	1.10	5
	3	1.25	1
	2	1.26	1
	3	1.35	11
	10	1.40	22
	11	1.50	14
	5	1.60	5
	2	1.66½	5
	4	1.70	1
	9	1.80	4
	4	2.00	.....
Average	58	1.53	69
Third hands or firemen	22	1.00	33
Timekeepers	1	1.53½	1
	1	2.91½	1
Average	2	2.22½	2

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Concluded.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Employees.	Rates of wages.	Employees.	Rates of wages.	
Top fillers	12	$1.80	12	$2.05	
	4	2.00	4	2.30	
Average	16	1.85	16	2.11½	+14.32
Track men, railroad	2	1.12½	2	1.25	+11.11
Trappers	2	.60	2	.60	
	2	.70	2	.70	
Average	4	.65	4	.65	
Unloaders	6	1.40	8	1.40	
	8	1.60	15	1.75	
	9	1.75	5	1.80	
	2	1.80	10	1.90	
	1	2.00	1	2.00	
	4	2.25	4	2.25	
Average	30	1.72	43	1.78	+ 3.49
Unloaders, boss	1	4.60	1	6.00	+30.43
Warehousemen	5	1.15	7	1.25	
	6	1.25	3	1.40	
	6	1.30	7	1.50	
	9	1.40	6	1.55	
	17	1.42	1	1.57	
	3	1.50	38	1.60	
	6	1.52	1	1.64	
	1	1.60	6	1.65	
	4	1.75	5	1.75	
	4	2.00	3	1.76	
	3	2.25	1	1.85	
	.....	.....	1	1.90	
	.....	.....	6	2.00	
	.....	.....	1	2.25	
	.....	.....	2	2.30	
	.....	.....	1	2.50	
Average	64	1.48	89	1.64	+10.81
Warehousemen, boss	1	6.00	1	8.00	+33.33
Washermen	1	1.44	1	1.60	
	1	1.53	1	1.70	
Average	2	1.48½	2	1.65	+11.11
Watchmen	1	1.00	1	1.20	
	3	1.15	2	1.25	
	4	1.20	6	1.35	
	5	1.25	3	1.37	
	1	1.30	2	1.37½	
	6	1.35	1	1.40	
	1	1.45	5	1.50	
	4	1.50	2	1.60	
	3	1.75	3	1.65	
	4	1.80	3	1.75	
Watchmen—Concluded.	.....	.....	1	$1.85	
	.....	.....	1	1.90	
	.....	.....	3	1.95	
	.....	.....	2	2.00	
Average	32	$1.40	35	1.56	+11.43
Water boys	4	.60	2	.65	
	.....	.....	1	.75	
	.....	.....	1	1.05	
Average	4	.60	4	.77½	+29.17
Water tenders	2	1.25	2	1.50	
	2	1.35	4	1.60	
	7	1.50	2	1.65	
	4	1.60	8	1.72	
	4	1.75	2	1.90	
	2	1.95	4	2.00	
	.....	.....	2	2.10	
	.....	.....	2	2.20	
Average	21	1.57	26	1.80	+14.65
Weigh boys	1	.50	1	.70	
	3	.90	2	.90	
	.....	.....	7	1.00	
Average	4	.80	10	.95	+18.75
Weigh men	3	1.25	1	1.25	
	2	1.40	7	1.50	
	1	1.41	4	1.66½	
	3	1.50	7	1.70	
	4	1.55	2	1.75	
	1	1.60	1	1.80	
	2	1.90	2	1.90	
	1	2.05	1	2.00	
	1	2.50	1	2.10	
	.....	.....	1	2.25	
	.....	.....	1	2.35	
	.....	.....	1	2.70	
Average	18	1.59	29	1.75	+10.06
Wheelers, metal	1	1.40	1	1.40	
	3	1.50	5	1.70	
	1	1.60	2	1.90	
	2	1.75	.....	.....	
Average	7	1.57	8	1.71½	+ 9.24
Wipers	2	1.55	2	1.80	
	1	1.65	1	1.90	
Average	3	1.58½	3	1.83½	+15.77
Yard masters	1	2.68½	1	2.87½	+ 7.08
All occupations	4,545	1.93	5,873	2.27	+17.62

PRICES FIXED BY COMBINATIONS.—Probably the most important economic effect of the combinations is to be found in their influence upon prices; next, that of their influence upon wages. Before entering upon the study of the course of prices before and after the formation of certain special combinations it will be useful to note the direct efforts made by the combinations to fix prices for the consumers. Out of 28 combinations answering the question as to whether the organiza-

tion fixed the prices at which dealers shall sell to the consum answered in the affirmative. They state that the penalty fo any variation from the price fixed was the cutting off of th Twenty-four of the combinations answered the question d the negative and 2 reported that they did not sell to dealers, made no answer. It is not unlikely that an effort more or l mined is made by these silent combinations to fix prices, alth could not make that assumption regarding them all. One tion stated that, while not attempting to fix prices, it did giv tional discount to those customers who dealt exclusively with several cases the larger buyers receive special discounts beyc given to the smaller ones.

To the questions as to whether they require that persons, corporations dealing with them shall agree not to buy from others than the combination itself only 2 replied in the affirm replied in the negative, while 12 made no answer.

None of the combinations reported that they require any of sons, firms, or corporations dealing with them to buy all of th from them or sell all their goods to them. Twenty-six asserted that no such agreements were made, whereas 15 left tion unanswered.

As was stated earlier, practically all of these combinations s in all sections of the United States, while very many of them also an exporting business. Generally speaking, the prices the combinations are the same throughout the United Sta proper allowances made for the difference in the cost of transp Three organizations, however, stated that the prices are not fix same basis; 1 stated that they are approximately the same. the combinations allow their agents, however, to cut their rates to meet competitors, while 1 other reported that the office makes prices at times to meet competition and secur Twenty-three, however, stated distinctly that their agents allowed under any circumstances to cut prices.

In the case of export prices the situation is somewhat d Sixteen stated that their export prices are the same as th within the boundaries of the United States, due allowance bei for transportation; 3 more said that they are approximately s 10 stated that the prices differ; 8 of the 10 giving lower price eign buyers in order to secure their market, 1 reporting h lower prices to meet European competition, and 1 reporting prices in foreign countries.

MARKET PRICES BEFORE AND AFTER COMBINATION.—Thes cover all articles manufactured or controlled by combinations, such prices were obtainable. The prices were derived from a tive sources, in most cases from the market quotations.

The tables of prices, extending over a period of several years ending with 1899 and, generally speaking, giving the average monthly market prices, furnish material for judgment on economic conditions from various points of view. The prices given are, generally speaking, arranged in two forms. One form gives the average monthly price per unit of product (as of flour per barrel, of wheat per bushel, of pig iron per ton, of oil per gallon, of sugar per pound, etc.); the other gives relative prices, the first price being fixed at 100 and the following prices showing the monthly variation downward or upward from this base. For most purposes, when one wishes to show the general trend of industrial conditions, this arrangement of prices is probably the most useful. To show the effect of industrial combination upon prices it is best to consider the subject of price in a somewhat different way. Nearly all of the industrial combinations represented in these tables of prices are manufacturing corporations. If through their power they affect prices to their advantage, it must be either in the way of decreasing the price of the raw material or of increasing the price of the finished product more than it would be possible for competing establishments to do; i. e., the difference in these prices will be increased. It can readily be seen that if one organization controls 80 or 90 per cent of the entire output of the country in any special line there is reason to think it might exert such an influence upon prices, temporarily, at least, if it seemed good policy for it to do so. Being by all odds the largest buyer of raw material in the market, if it demanded especially favorable terms, such terms would probably be granted. On the other hand, if it is the seller of so large a percentage of any finished product, the market can certainly not be supplied within a brief space of time without purchasing from the combination in question. This would enable it, apparently, to fix prices of its product more or less arbitrarily.

In order to determine what has in fact been done by the combinations, it is necessary to make a direct comparison between the prices of the raw materials and of the finished product. The profits which are to be affected depend mainly upon the difference between the two. In order to make a comparison to advantage one needs to know enough about the process of manufacture to determine what should be the unit of comparison in any specific case. Many manufactured products have so great a number of raw materials entering into their composition that the comparison of the price of the finished product with any one or two of the raw materials entering into its composition would give no clear conception of the influence exerted. In other cases, as in the refining of sugar, the raw material being mainly a single article—raw sugar—the price of the finished product depends very largely upon the price of the raw material, and the difference between the two, the so-called "margin," would represent the cost of manufacture plus

the profit. If the combination can exert influence upon p
influence will appear in the increase of the margin, incre
profit if it is for the benefit of the combination to have
increased; or, possibly, for short periods lessening the ma
thus lessening or completely taking away the profit if it is
force competitors out of the field or to compel them to join
bination. A study of prices, then, to determine the effect of
combination upon social welfare should be a study of the m
the difference between the price of the raw material and th
product.

Care must be taken also not to be misled in making a comp
relative prices representing the price of the raw material a
finished product. The relative prices represent percentages o
or decrease from a fixed base. If the percentages of increa
raw material and of the finished product were the same and
centage of increase in the margin corresponded, it might be
infer that the profit of the combination remained the same o
combination had exerted through its own power no influence
price of the finished product. For example, if the price of
material were $2 per unit and the price of the finished prod
$3 per unit at any one time, the margin would be $1 per unit.
the price of the raw material were to increase 50 per cent, so
relative price would stand at 150, this would represent $3. T
relative price, 150, representing the price of the finished
would stand for $4.50. Considering the relative prices alone
gin—the difference—would appear not to have changed; b
matter of fact, the margin between actual prices would have i
from $1 to $1.50 per unit. If, therefore, the cost of man
remained the same the profit would have very greatly in
although it is probable that it would not have increased quit
cent, as one might infer. Generally speaking, in manufacture
some waste of the raw material. As the price of the raw
increases the value of this waste increases, so that to insure t
profit, unless there have been some improvements in the m
manufacture, the margin would increase slightly, though n
proportionately with the price of the raw material.

It is, of course, generally true that in all lines of manu
as time goes on, there are improvements in the methods, so
might expect that in a series of prices extending over seven
the margin between the price of the raw material and of the
product would lessen slightly, even though the profits were n
lessened. It is naturally true that these conditions will vary
separate industry, so that one is not justified in basing too
conclusions upon such figures. While it may be generally tr
the cost of manufacture lessens slightly as the years go on,

vidual cases or for short periods of time this is often not true. For example, during the last year there has been a very decided increase in the price of iron. This increase in the price of iron has increased the cost of manufacture in many branches of industry entirely remote from the iron industry, branches in which iron does not appear at all as a raw material. For example, in the refining of oil so much iron enters into the plant and is there so rapidly destroyed that an increase in the price of iron increases the cost of refined oil. In the refining of sugar bone black is in many cases used in the process, so that if for any reason there comes a decided increase in the price of bone black it would add to the cost of refining, and the margin between the raw and refined sugar should increase somewhat to insure the same profit. In the manufacture of flour from wheat there are the by-products of bran and middlings, the prices of which in many instances are affected by conditions different from those which affect the price of either wheat or flour. Many other similar examples, of course, might be given, although, generally speaking, it would require an expert knowledge of the process of manufacture to draw absolute conclusions in any one line from the figures given.

With these statements, therefore, it will be profitable to consider somewhat carefully several of the tables of prices given, calling attention emphatically, first, to the danger of drawing too positive conclusions unless one is thoroughly familiar with the process of manufacture in the line under consideration and is certain that he has taken into account all of the modifying factors; and, second, to the danger of judging the effect of the combinations from the variations in the relative prices instead of from the margin, or the difference between the actual prices per unit of the raw materials which enter into the composition of the product and the price of a unit of the finished product.

SUGAR.—The standard finished product of the sugar refineries in this country is granulated sugar. The grade of raw sugar which forms the basis of prices for raw sugar and of all calculations in connection with the sugar market is the 96° centrifugal sugar. Out of 100 pounds of the 96° centrifugal there are obtained from 92 to 93 pounds—possibly sometimes more—of granulated sugar. In the tables following are given for the years 1880 to 1899 the average monthly New York prices per pound of granulated and raw sugar, and the difference between these prices; also the relative monthly prices of granulated and raw sugar based upon the above prices. The sugar trust began operations in November, 1887.

MONTHLY PRICES OF GRANULATED SUGAR AND THE MATERIAL ENTE MANUFACTURE AT NEW YORK, 1880 TO 1899.

[The prices shown were furnished by Willett & Gray, publishers of the Weekly Trade Journal, N. Y. The combination controlling a large proportion of this pro ized in 1887.]

Year and month.	Product—granulated sugar, per pound.	Material—sugar 96° centrifugal, per pound.	Difference.
1880.			
January	$0.09587	$0.08550	$0.01037
February	.09343	.08187	.01156
March	.09625	.08546	.01079
April	.09387	.08575	.00812
May	.09359	.08500	.00859
June	.09921	.08578	.01343
July	.10000	.08725	.01275
August	.10340	.08406	.01934
September	.09987	.08425	.01562
October	.09437	.07813	.01624
November	.09375	.08156	.01219
December	.09550	.08362	.01188
1881.			
January	.09515	.08421	.01094
February	.09187	.08297	.00890
March	.09250	.08420	.00830
April	.09250	.08062	.01188
May	.09875	.08234	.01641
June	.10475	.08600	.01875
July	.10000	.08550	.01450
August	.09556	.08500	.01056
September	.09950	.08575	.01375
October	.10450	.08765	.01685
November	.09615	.08750	.00865
December	.09287	.08187	.01100
1882.			
January	.09300	.07875	.01425
February	.09218	.07781	.01437
March	.09312	.07937	.01375
April	.09775	.08212	.01563
May	.09630	.08152	.01478
June	.09484	.08062	.01422
July	.09380	.08025	.01355
August	.09250	.08000	.01250
September	.09203	.08075	.01128
October	.09187	.08012	.01175
November	.08006	.07984	.00022
December	.08725	.07690	.01035
1883.			
January	.08637	.07700	.00937
February	.08843	.07625	.01218
March	.08859	.07750	.01109
April	.08712	.07635	.01077
May	.08815	.07812	.01003
June	.08859	.07640	.01219
July	.08850	.07626	.01224
August	.08656	.07562	.01094
September	.08710	.07568	.01142
October	.08587	.07687	.00900
November	.08109	.07530	.00579
December	.07937	.07065	.00872
1884.			
January	.07812	.06775	.01037
February	.07593	.06734	.00859
March	.07300	.06437	.00863
April	.06968	.06265	.00703
May	.07187	.06109	.01078
June	.06650	.05700	.00950
July	.06750	.05906	.00844
August	.06587	.05675	.00912
September	.06484	.05563	.00921
October	.06390	.05609	.00781
November	.06141	.05608	.00533
December	.05912	.05336	.00576
1885.			
January	.06162	.05487	.00675
February	.06156	.05546	.00610
March	.06000	.05362	.00638
April	.06062	.05375	.00687
May	.06687	.05890	.00797
June	.06737	.06162	.00575
July	$0.06453	$0.0	
August	.06750	.0	
September	.06906	.0	
October	.06546	.0	
November	.06593	.0	
December	.06625	.0	
1886.			
January	.06625	.0	
February	.06140	.0	
March	.06225	.0	
April	.06810	.0	
May	.06343	.0	
June	.06185	.0	
July	.06195	.0	
August	.06065	.0	
September	.05955	.0	
October	.05825	.0	
November	.05690	.0	
December	.05725	.0	
1887.			
January	.05825	.0	
February	.05687	.0	
March	.05725	.0	
April	.05689	.0	
May	.05734	.0	
June	.05850	.0	
July	.05935	.0	
August	.06037	.0	
September	.06078	.0	
October	.06602	.0	
November	.06630	.0	
December	.06875	.0	
1888.			
January	.07125	.0	
February	.06800	.0	
March	.06750	.0	
April	.06750	.0	
May	.06750	.0	
June	.06808	.0	
July	.07625	.0	
August	.07550	.0	
September	.07656	.0	
October	.07490	.0	
November	.07250	.0	
December	.07250	.0	
1889.			
January	.07050	.0	
February	.07000	.0	
March	.07255	.0	
April	.08406	.0	
May	.08550	.0	
June	.09100	.0	
July	.09062	.0	
August	.08300	.0	
September	.08000	.0	
October	.07235	.0	
November	.06890	.0	
December	.06750	.0	
1890.			
January	.06475	.0	
February	.06312	.0	
March	.06262	.0	
April	.06132	.0	
May	.06140	.0	
June	.06437	.0	
July	.06220	.0	
August	.06142	.0	
September	.06600	.0	
October	.06592	.0	
November	.06187	.0	
December	.06050	.0	

MONTHLY PRICES OF GRANULATED SUGAR AND THE MATERIAL ENTERING INTO ITS MANUFACTURE AT NEW YORK, 1880 to 1899—Concluded.

Year and month.	Product—granulated sugar, per pound.	Material—sugar 96° centrifugal, per pound.	Difference.
1891.			
January	$0.05930	$0.05276	$0.00654
February	.06320	.05590	.00730
March	.05968	.05200	.00768
April	.04500	.03516	.00984
May	.04326	.03250	.01076
June	.04137	.03375	.00762
July	.04265	.03357	.00908
August	.04154	.03424	.00730
September	.04337	.03428	.00909
October	.04233	.03349	.00884
November	.04137	.03485	.00652
December	.04072	.03485	.00587
1892.			
January	.03980	.03476	.00504
February	.03920	.03432	.00488
March	.04222	.03306	.00916
April	.04230	.03125	.01105
May	.04220	.03090	.01130
June	.04256	.03123	.01133
July	.04190	.03093	.01097
August	.04320	.03232	.01088
September	.04862	.03611	.01251
October	.04720	.03470	.01250
November	.04630	.03375	.01255
December	.04600	.03401	.01199
1893.			
January	.04600	.03470	.01130
February	.04553	.03424	.01129
March	.04534	.03443	.01091
April	.04915	.03844	.01071
May	.05110	.04118	.00992
June	.05220	.04375	.00845
July	.05257	.04170	.01087
August	.05080	.03650	.01430
September	.05080	.03740	.01340
October	.05080	.03938	.01142
November	.04472	.03170	.01302
December	.04204	.02925	.01279
1894.			
January	.03920	.02885	.01035
February	.04090	.03242	.00848
March	.04122	.03145	.00977
April	.03980	.02847	.01133
May	.03922	.02821	.01101
June	.03905	.03041	.00864
July	.04280	.03146	.01134
August	.04272	.03447	.00825
September	.04675	.03760	.00915
October	.04362	.03660	.00702
November	.04040	.03510	.00530
December	.03800	.03310	.00490
1895.			
January	.03740	.03021	.00719
February	.03710	.03069	.00641
March	.03815	.03000	.00815
April	.03860	.03000	.00860
May	.04207	.03296	.00911
June	.04350	.03357	.00993
July	$0.04350	$0.03265	$0.01085
August	.04307	.03295	.01012
September	.04225	.03280	.00945
October	.04458	.03577	.00881
November	.04230	.03396	.00834
December	.04424	.03540	.00884
1896.			
January	.04654	.03800	.00854
February	.04667	.04031	.00636
March	.04780	.04152	.00628
April	.05092	.04273	.00819
May	.04992	.04125	.00867
June	.04657	.03671	.00986
July	.04448	.03387	.01061
August	.04585	.03406	.01129
September	.04470	.03140	.01330
October	.03984	.03062	.00922
November	.04100	.03298	.00802
December	.04100	.03234	.00866
1897.			
January	.04052	.03180	.00872
February	.04070	.03215	.00855
March	.04140	.03248	.00892
April	.04332	.03306	.01026
May	.04260	.03280	.00980
June	.04410	.03453	.00957
July	.04606	.03600	.01006
August	.04720	.03750	.00970
September	.04803	.03876	.00927
October	.04818	.03843	.00975
November	.04720	.03843	.00877
December	.04840	.04038	.00802
1898.			
January	.04936	.04132	.00804
February	.04945	.04150	.00795
March	.04865	.04098	.00767
April	.04993	.04156	.00837
May	.05098	.04230	.00868
June	.05080	.04286	.00794
July	.05080	.04125	.00955
August	.05080	.04234	.00846
September	.05172	.04349	.00823
October	.04735	.04238	.00497
November	.04880	.04385	.00495
December	.04846	.04401	.00445
1899.			
January	.04711	.04280	.00431
February	.04720	.04326	.00394
March	.04816	.04395	.00421
April	.04930	.04578	.00352
May	.05080	.04656	.00424
June	.05184	.04626	.00558
July	.05210	.04453	.00757
August	.05122	.04524	.00598
September	.04874	.04375	.00499
October	.04795	.04310	.00485
November	.04795	.04265	.00530
December	.04795	.04250	.00545

RELATIVE MONTHLY PRICES OF GRANULATED SUGAR AND THE MATERIAL ENTERING INTO ITS MANUFACTURE AT NEW YORK, 1880 TO 1899.

[The combination controlling a large proportion of this product was organized in 1887.]

Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.	Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.	Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.
1880.			1885.			1891.		
Jan	100.0	100.0	July	67.3	69.8	Jan	61.9	61.7
Feb	97.5	95.8	Aug	70.4	70.9	Feb	65.9	65.4
Mar	100.4	100.0	Sept	72.0	72.4	Mar	62.3	60.8
Apr	97.9	100.3	Oct	68.3	71.3	Apr	46.9	41.1
May	97.6	99.4	Nov	68.8	70.2	May	45.1	38.0
June	103.5	100.3	Dec	69.1	73.1	June	43.2	39.5
July	104.3	102.0				July	44.5	39.3
Aug	107.9	98.3	1886.			Aug	43.3	40.0
Sept	104.2	98.5	Jan	69.1	71.6	Sept	45.2	40.1
Oct	98.4	91.4	Feb	64.0	66.7	Oct	44.2	39.2
Nov	97.8	95.4	Mar	64.9	65.1	Nov	43.2	40.8
Dec	99.6	97.8	Apr	71.0	67.8	Dec	42.5	40.8
			May	66.2	64.1			
1881.			June	64.5	63.6	1892.		
Jan	99.2	98.5	July	64.6	63.0	Jan	41.5	40.7
Feb	95.8	97.0	Aug	63.3	61.3	Feb	40.9	40.1
Mar	96.5	98.5	Sept	62.1	61.9	Mar	44.0	38.7
Apr	96.5	94.3	Oct	60.8	60.7	Apr	44.1	36.5
May	103.0	96.3	Nov	59.4	60.4	May	44.0	36.1
June	109.3	100.6	Dec	59.7	60.5	June	44.4	36.5
July	104.3	100.0				July	43.7	36.2
Aug	99.7	99.4	1887.			Aug	45.1	37.8
Sept	103.8	100.3	Jan	60.8	60.8	Sept	50.7	42.2
Oct	109.0	102.5	Feb	59.3	59.9	Oct	49.2	40.6
Nov	100.3	102.3	Mar	59.7	60.2	Nov	48.3	39.5
Dec	96.9	95.8	Apr	59.3	60.5	Dec	48.0	39.8
			May	59.8	59.9			
1882.			June	61.0	60.7	1893.		
Jan	97.0	92.1	July	61.9	61.6	Jan	48.0	40.6
Feb	96.2	91.0	Aug	63.0	62.1	Feb	47.5	40.0
Mar	97.1	92.8	Sept	63.4	63.0	Mar	47.3	40.3
Apr	102.0	96.0	Oct	68.9	65.5	Apr	51.3	45.0
May	100.4	95.3	Nov	69.2	69.4	May	53.3	48.2
June	98.9	94.3	Dec	71.7	69.5	June	54.4	51.2
July	97.8	93.9				July	54.8	48.8
Aug	96.5	93.6	1888.			Aug	53.0	42.7
Sept	96.0	94.4	Jan	74.3	69.6	Sept	53.0	43.7
Oct	95.8	93.7	Feb	70.9	64.5	Oct	53.0	46.1
Nov	83.5	93.4	Mar	70.4	63.6	Nov	46.6	37.1
Dec	91.0	89.9	Apr	70.4	64.3	Dec	43.9	34.2
			May	70.4	64.1			
1883.			June	71.0	64.3	1894.		
Jan	90.1	90.1	July	79.5	68.9	Jan	40.9	33.7
Feb	92.2	89.2	Aug	78.8	73.0	Feb	42.7	37.9
Mar	92.4	90.6	Sept	79.9	75.9	Mar	43.0	36.8
Apr	90.9	89.3	Oct	78.1	72.4	Apr	41.5	33.3
May	91.9	91.4	Nov	75.6	73.0	May	40.9	33.0
June	92.4	89.4	Dec	75.6	72.5	June	40.7	35.6
July	92.3	89.2				July	44.6	36.8
Aug	90.3	88.4	1889.			Aug	44.6	40.3
Sept	90.9	88.5	Jan	73.5	66.1	Sept	48.8	44.0
Oct	89.6	89.9	Feb	73.0	65.1	Oct	45.5	42.8
Nov	84.6	88.1	Mar	75.7	71.5	Nov	42.1	41.1
Dec	82.8	82.6	Apr	87.7	86.3	Dec	39.6	38.7
			May	89.2	85.5			
1884.			June	94.9	93.9	1895.		
Jan	81.5	79.2	July	94.5	92.8	Jan	39.0	35.3
Feb	79.2	78.8	Aug	86.6	80.8	Feb	38.7	35.9
Mar	76.1	75.3	Sept	83.4	74.6	Mar	39.8	35.1
Apr	72.7	73.3	Oct	75.5	70.7	Apr	40.3	35.1
May	75.0	71.5	Nov	71.9	67.1	May	43.9	38.5
June	69.4	66.7	Dec	70.4	70.2	June	45.4	39.3
July	70.4	69.1				July	45.4	38.2
Aug	68.7	66.4	1890.			Aug	44.9	38.5
Sept	67.6	65.1	Jan	67.5	66.5	Sept	44.1	38.4
Oct	66.7	65.6	Feb	65.8	65.8	Oct	46.5	41.8
Nov	64.1	65.6	Mar	65.3	64.3	Nov	44.1	39.7
Dec	61.7	62.4	Apr	64.0	64.1	Dec	46.1	41.4
			May	64.0	63.6			
1885.			June	67.1	63.7	1896.		
Jan	64.3	64.2	July	64.9	63.6	Jan	48.5	44.4
Feb	64.2	64.9	Aug	64.1	65.6	Feb	48.7	47.1
Mar	62.6	62.7	Sept	68.8	70.0	Mar	49.9	48.6
Apr	63.2	62.9	Oct	68.8	69.8	Apr	53.1	50.0
May	69.8	68.9	Nov	64.5	64.3	May	52.1	48.2
June	70.3	72.1	Dec	63.1	61.8	June	48.6	42.9

RELATIVE MONTHLY PRICES OF GRANULATED SUGAR AND THE MATERIAL ENTERING INTO ITS MANUFACTURE AT NEW YORK, 1880 TO 1899—Concluded.

Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.	Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.	Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.
1896.			1897.			1898.		
July	46.4	39.6	Sept	50.1	45.3	Nov	50.9	51.3
Aug	47.3	39.8	Oct	50.3	44.9	Dec	50.5	51.5
Sept	46.6	36.7	Nov	49.2	44.9			
Oct	41.6	35.8	Dec	50.5	47.2	1899.		
Nov	42.8	38.6				Jan	49.1	50.1
Dec	42.8	37.8	1898.			Feb	49.2	50.6
			Jan	51.5	48.3	Mar	50.2	51.4
1897.			Feb	51.6	48.5	Apr	51.4	53.5
Jan	42.3	37.2	Mar	50.7	47.9	May	53.0	54.5
Feb	42.5	37.6	Apr	52.1	48.6	June	54.1	54.1
Mar	43.2	38.0	May	53.2	49.5	July	54.3	52.1
Apr	45.2	38.7	June	53.0	50.1	Aug	53.4	52.9
May	44.4	38.4	July	53.0	48.2	Sept	50.8	51.2
June	46.0	40.4	Aug	53.0	49.5	Oct	50.0	50.4
July	48.0	42.1	Sept	53.9	50.9	Nov	50.0	49.9
Aug	49.2	43.9	Oct	49.4	49.6	Dec	50.0	49.7

If one notices the course of prices from 1880 to 1887 of both the refined sugar and the raw, it will be noted that the difference between these prices—the margin—while fluctuating a good deal had a decided tendency downward, this margin being least toward the close of 1885 and the beginning of 1886, but decidedly lower in 1885, 1886, and 1887 than in the years preceding. Competition was very severe. Immediately after the formation of the trust this margin increased from a little over one-half a cent per pound, speaking generally, to as much as a cent and a quarter. With almost daily fluctuations of small amounts the margin remained about the same for nearly two years. At that time it fell back to about what it had been before the organization of the trust. At the time of the lessening of the margin active competition had begun against the trust on the part of the Spreckles refineries and others, especially in the neighborhood of Philadelphia. This margin remained low until the beginning of 1892, when the competing refineries were bought by the combination. Immediately afterwards the margin was again increased to over a cent a pound, and it remained at an average of more than a cent a pound for considerably over two years. There was a decided lowering in the margin for two or three months in several instances, and the margin seems gradually to have decreased slightly for the entire period until 1898, the general presumption being that this decrease in the margin may have been due in part to improvements in methods of refining, possibly in part to fear of more vigorous competition. There was, however, no decided further fall in the margin lasting for any length of time until the latter part of 1898, when active competition sprung up again, especially on the part of the Arbuckle and Doscher refineries. The margin again immediately dropped back to the neighborhood of 50 cents per hundred pounds—sometimes being decidedly below, sometimes somewhat above—and has remained low from the beginning of this active

competition until the present time. The comparison thus
prices, running over this whole period, would seem to show t
ing the periods of active competition the margin is very d
lower than during the periods when the trust has much less act
petition and is largely in control of the market.

A careful study of the absolute prices given, as well as of
tive prices, shows a very marked immediate lessening of the
both the raw material and the finished product in April, 1891, a
there is no very marked change in the margin at that time.
in price was due to the fact that the duty was reduced about
per pound.

It is perhaps fair to say that sugar refiners themselves ins
before the organization of the trust competition had been so v
that there was no profit in the business for most refiners and that
proportion, some 16 out of 40, of the refiners in the country had
The testimony both of refiners connected with the combinati
those opposed to it is that at the present time, with the marg
low, there is practically no profit in refining. The advantag
disadvantages of a lower margin do not concern us here. The
seem to show that unless there are other factors entering into th
lem beyond those which appear, and the refiners themselves a
concede that no others are worthy of serious consideration, th
of this combination has been, as stated, to raise prices above co
tors' rates. It is just, however, to state still further that some
refiners and those not connected with the trusts argue that
trust had not been formed so many more refineries would pr
have been forced into bankruptcy under the vigorous competiti
a shortage in the supply would have resulted in putting price
higher than they were put by the combination. Of course the
tistics have nothing to do with what might have been, even the
is just to call attention to the industrial condition of the times.
tion should again be called to the statement, made earlier, that ir
to secure the same profits the margin between raw and refined
should be slightly greater when the price of raw sugar is high
much as the loss of weight is a more expensive waste.

WHITE LEAD.—The tables following show the average annual
per pound of white lead ground in oil and of the materials u
its manufacture, pig lead per pound and linseed oil per gallc
relative prices for the same. Of course the pig lead forms by a
the greater part of the product, so that the variations in the p
lead would have more influence than those in the price of oil.
keeps this in mind, neglecting the other materials and labor, the
tions in prices of these two factors may be perhaps enough t
some basis for judgment.

YEARLY PRICES OF WHITE LEAD AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1882 TO 1899.

[The prices shown are from authoritative market quotations and the books of the combination itself. The combination manufacturing a large quantity of this product was organized in December, 1891.]

Year.	Product—white lead ground in oil, per pound.	Materials.		Year.	Product—white lead ground in oil, per pound.	Materials.	
		Pig lead at New York, per pound.	Linseed oil at New York, per gallon.			Pig lead at New York, per pound.	Linseed oil at New York, per gallon.
1882	$0.07½	$0.0490	$0.5414	1891	$0.06⅝	$0.0433	$0.4688
1883	.07	.0432	.5475	1892	.06⅜	.0403	.4128
1884	.06½	.0373	.5340	1893	.06⅛	.0361	.4593
1885	.06⅜	.0395	.4933	1894	.05¾	.0318	.5317
1886	.07¼	.0463	.4250	1895	.05 9/16	.0314	.5146
1887	.06¾	.0447	.4529	1896	.05½	.0292	.3632
1888	.06⅜	.0441	.5550	1897	.05 13/16	.0347	.3410
1889	.06⅛	.0380	.5925	1898	.05 7/12	.0377	.4062
1890	.06⅜	.0433	.6141	1899	(a)	(a)	.4364

a Not reported.

RELATIVE YEARLY PRICES OF WHITE LEAD AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1882 TO 1899.

[The combination manufacturing a large quantity of this product was organized in December, 1891.]

Year.	Product—white lead ground in oil.	Materials.		Year.	Product—white lead ground in oil.	Materials.	
		Pig lead at New York.	Linseed oil at New York.			Pig lead at New York.	Linseed oil at New York.
1882	100.0	100.0	100.0	1891	91.4	88.4	86.6
1883	96.6	88.2	101.1	1892	93.1	82.2	76.2
1884	86.2	76.1	98.6	1893	89.7	73.7	84.8
1885	87.9	80.6	91.1	1894	79.3	64.9	98.2
1886	100.0	94.5	78.5	1895	76.7	64.1	95.0
1887	94.8	91.2	83.7	1896	72.4	59.6	67.1
1888	91.4	90.0	102.5	1897	75.6	70.8	63.0
1889	94.8	77.6	109.4	1898	77.0	76.9	75.0
1890	91.4	88.4	113.4	1899	(a)	(a)	80.6

a Not reported.

If one studies these prices it will appear that for the years 1892 and 1893, immediately following the organization of the white-lead combination, the margin was decidedly greater than for several years preceding, with the exception of the year 1889. On the other hand, the margin after 1893 lessened, and during the years 1897 and 1898 was lower than during any of the preceding years shown in the table. So far as this raw material represented in the tables is to be considered the basis for fixing the price of the finished product, it would seem therefore that the combination, provided other conditions had not materially changed, was able to put the margin and, in consequence, its profits very decidedly higher during the first two years of its existence, but that since that time it has not been able to hold the margin higher. Its profits, if they have been kept above those which would hold during a period of competition, must come either from economies in manufacture, which do not appear at all in the tables, or from variations in other factors which are not represented here. Regarding those facts it must be left for experts in that line of manufacture to judge.

PETROLEUM.—The tables giving the prices of petroleum s
the price per gallon of petroleum refined for export, the p
gallon of the crude oil used as raw material, and the difference
the refined and the crude oil per gallon for each month of t
1866 to 1899. In the prices for refined oil is included that of th
in which it is ordinarily sold; the prices of the crude oil re
prices per gallon without including the package. Prices of cr
when quoted by the barrel, ordinarily exclude the package,
refined oil include it, so that these tables are made up in acc
with the usual custom of quotation, but in both cases are red
gallons. The margin between the price of the crude and the
shown in the table represents the price of the barrel plus the
refining and the profit. It should be borne in mind that the ex
is not of quite so high a grade as the standard oil used for consu
in the United States, as represented in the tables showing p
standard white illuminating oil at Chicago, Cincinnati, and New
The table of monthly prices is followed by the table of relative

MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING I
MANUFACTURE, 1866 TO 1899.

[The prices shown are from the Report of the Industrial Commission on Trusts and Indust
binations, Part I, pp. 48, 49, and 50. The package is included in the price for refined oil, b
included in the price for crude oil. The combination controlling 82.3 per cent of this pro
organized in 1882.]

Year and month.	Product—refined export oil at New York, per gallon.	Material—crude oil at Oil City, per gallon.	Difference.	Year and month.	Product—refined export oil at New York, per gallon.	Material—crude oil at Oil City, per gallon.	Di
1866.				1868.			
January	$0.5787	$0.1190	$0.4597	July	$0.3425	$0.1209	
February	.4862	.1047	.3815	August	.3300	.1030	
March	.4087	.0893	.3194	September	.3100	.0928	
April	.4012	.0940	.3072	October	.3000	.0982	
May	.4300	.1100	.3200	November	.3087	.0882	
June	.4187	.0833	.3354	December	.3275	.1012	
July	.3950	.0714	.3236				
August	.4437	.0893	.3544	1869.			
September	.4462	.1072	.3390	January	.3412	.1369	
October	.4062	.0808	.3254	February	.3637	.1560	
November	.3575	.0738	.2837	March	.3212	.1428	
December	.3125	.0464	.2661	April	.3225	.1357	
				May	.3150	.1273	
1867.				June	.3100	.1190	
January	.3100	.0446	.2654	July	.3225	.1280	
February	.2825	.0441	.2384	August	.3250	.1310	
March	.2750	.0417	.2333	September	.3225	.1310	
April	.2700	.0464	.2236	October	.3287	.1322	
May	.2675	.0559	.2116	November	.3400	.1381	
June	.2475	.0452	.2023	December	.3112	.1219	
July	.3087	.0625	.2462				
August	.2925	.0750	.2175	1870.			
September	.3175	.0808	.2367	January	.3137	.1078	
October	.3450	.0868	.2582	February	.2987	.1101	
November	.2750	.0607	.2143	March	.2700	.1024	
December	.2475	.0446	.2029	April	.2650	.1012	
				May	.2750	.1078	
1868.				June	.2700	.1012	
January	.2475	.0464	.2011	July	.2600	.0905	
February	.2500	.0536	.1964	August	.2500	.0755	
March	.2575	.0619	.1956	September	.2612	.0827	
April	.2625	.0702	.1923	October	.2437	.0768	
May	.2962	.0875	.2087	November	.2300	.0779	
June	.3137	.1030	.2107	December	.2300	.0809	

MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899—Continued.

Year and month.	Product—refined export oil at New York, per gallon.	Material—crude oil at Oil City, per gallon.	Difference.	Year and month.	Product—refined export oil at New York, per gallon.	Material—crude oil at Oil City, per gallon.	Difference.
1871.				1876.			
January	$0.2462	$0.0952	$0.1510	July	$0.1687	$0.0545	$0.1142
February	.2512	.1073	.1439	August	.1987	.0654	.1333
March	.2412	.1012	.1400	September	.2600	.0906	.1694
April	.2325	.0941	.1384	October	.2600	.0786	.1814
May	.2462	.1089	.1373	November	.2625	.0792	.1833
June	.2575	.1095	.1480	December	.2937	.0901	.2036
July	.2575	.1143	.1432				
August	.2437	.1053	.1384	1877.			
September	.2412	.1083	.1329	January	.2400	.0840	.1560
October	.2375	.1118	.1257	February	.1862	.0638	.1224
November	.2237	.0976	.1261	March	.1600	.0637	.0963
December	.2300	.1035	.1265	April	.1575	.0618	.0957
				May	.1450	.0533	.0917
1872.				June	.1375	.0464	.0911
January	.2237	.0958	.1279	July	.1337	.0525	.0812
February	.2175	.0887	.1288	August	.1362	.0588	.0774
March	.2262	.0857	.1405	September	.1450	.0568	.0882
April	.2175	.0840	.1335	October	.1462	.0534	.0928
May	.2337	.0928	.1409	November	.1325	.0456	.0869
June	.2300	.0943	.1357	December	.1312	.0430	.0882
July	.2237	.0875	.1362				
August	.2237	.0827	.1410	1878.			
September	.2412	.0750	.1662	January	.1212	.0344	.0868
October	.2600	.0994	.1606	February	.1225	.0395	.0830
November	.2700	.1035	.1665	March	.1162	.0379	.0783
December	.2600	.0783	.1817	April	.1137	.0326	.0811
				May	.1125	.0322	.0803
1873.				June	.1125	.0271	.0854
January	.2212	.0565	.1647	July	.1075	.0235	.0840
February	.1962	.0524	.1438	August	.1087	.0240	.0847
March	.1900	.0500	.1400	September	.1025	.0206	.0819
April	.2000	.0583	.1417	October	.0962	.0196	.0766
May	.1975	.0595	.1380	November	.0912	.0214	.0698
June	.1900	.0518	.1382	December	.0962	.0228	.0734
July	.1812	.0431	.1381				
August	.1650	.0319	.1331	1879.			
September	.1650	.0304	.1346	January	.0900	.0245	.0655
October	.1625	.0295	.1330	February	.0937	.0233	.0704
November	.1412	.0256	.1156	March	.0925	.0205	.0720
December	.1350	.0232	.1118	April	.0912	.0187	.0725
				May	.0850	.0180	.0670
1874.				June	.0750	.0164	.0586
January	.1350	.0316	.1034	July	.0675	.0166	.0509
February	.1500	.0452	.1048	August	.0662	.0160	.0502
March	.1487	.0428	.1059	September	.0687	.0165	.0522
April	.1562	.0466	.1096	October	.0750	.0210	.0540
May	.1387	.0274	.1113	November	.0800	.0251	.0549
June	.1287	.0282	.1005	December	.0862	.0282	.0580
July	.1212	.0240	.0972				
August	.1175	.0238	.0937	1880.			
September	.1212	.0232	.0980	January	.0787	.0263	.0524
October	.1175	.0208	.0967	February	.0787	.0246	.0541
November	.1075	.0173	.0902	March	.0775	.0213	.0562
December	.1125	.0208	.0917	April	.0762	.0183	.0579
				May	.0762	.0191	.0571
1875.				June	.0962	.0239	.0723
January	.1237	.0256	.0981	July	.0987	.0241	.0746
February	.1400	.0360	.1040	August	.0900	.0216	.0684
March	.1500	.0388	.1112	September	.1062	.0228	.0834
April	.1387	.0332	.1055	October	.1200	.0231	.0969
May	.1287	.0278	.1009	November	.1050	.0218	.0832
June	.1262	.0267	.0995	December	.0950	.0221	.0729
July	.1150	.0205	.0945				
August	.1125	.0217	.0908	1881.			
September	.1275	.0310	.0965	January	.0925	.0227	.0698
October	.1412	.0322	.1090	February	.0925	.0214	.0711
November	.1300	.0318	.0982	March	.0850	.0198	.0652
December	.1275	.0332	.0943	April	.0775	.0201	.0574
				May	.0800	.0195	.0605
1876.				June	.0812	.0194	.0618
January	.1412	.0425	.0987	July	.0787	.0183	.0604
February	.1425	.0479	.0946	August	.0775	.0188	.0587
March	.1450	.0493	.0957	September	.0800	.0220	.0580
April	.1400	.0453	.0947	October	.0775	.0221	.0554
May	.1412	.0454	.0958	November	.0750	.0197	.0553
June	.1475	.0484	.0991	December	.0712	.0200	.0512

MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899—Continued.

Year and month.	Product—refined export oil at New York, per gallon.	Material—crude oil at Oil City, per gallon.	Difference.
1882.			
January	$0.0700	$0.0198	$0.0502
February	.0737	.0203	.0534
March	.0737	.0193	.0544
April	.0737	.0187	.0550
May	.0750	.0167	.0583
June	.0750	.0130	.0620
July	.0675	.0137	.0538
August	.0687	.0140	.0547
September	.0750	.0169	.0581
October	.0800	.0223	.0577
November	.0825	.0273	.0552
December	.0762	.0228	.0534
1883.			
January	.0775	.0220	.0555
February	.0787	.0241	.0546
March	.0800	.0232	.0568
April	.0825	.0221	.0604
May	.0787	.0236	.0551
June	.0800	.0279	.0521
July	.0762	.0257	.0505
August	.0787	.0259	.0528
September	.0812	.0268	.0544
October	.0837	.0265	.0572
November	.0875	.0273	.0602
December	.0912	.0272	.0640
1884.			
January	.0937	.0265	.0672
February	.0912	.0250	.0662
March	.0850	.0239	.0611
April	.0862	.0234	.0628
May	.0850	.0204	.0646
June	.0812	.0164	.0648
July	.0787	.0151	.0636
August	.0800	.0193	.0607
September	.0787	.0186	.0601
October	.0787	.0169	.0618
November	.0787	.0173	.0614
December	.0775	.0177	.0598
1885.			
January	.0775	.0169	.0606
February	.0775	.0174	.0601
March	.0800	.0191	.0609
April	.0787	.0188	.0599
May	.0775	.0189	.0586
June	.0800	.0196	.0604
July	.0825	.0230	.0595
August	.0837	.0239	.0598
September	.0837	.0240	.0597
October	.0850	.0251	.0599
November	.0850	.0248	.0602
December	.0800	.0213	.0587
1886.			
January	.0775	.0210	.0565
February	.0762	.0191	.0571
March	.0737	.0184	.0553
April	.0737	.0176	.0561
May	.0725	.0166	.0559
June	.0712	.0160	.0552
July	.0700	.0157	.0543
August	.0675	.0148	.0527
September	.0662	.0151	.0511
October	.0675	.0155	.0520
November	.0687	.0172	.0515
December	.0687	.0169	.0518
1887.			
January	.0675	.0169	.0506
February	.0662	.0151	.0511
March	.0662	.0151	.0511
April	.0662	.0154	.0508
May	.0675	.0153	.0522
June	.0662	.0149	.0513
July	.0650	.0141	.0509
August	.0650	.0143	.0507
September	.0675	.0160	.0515
October	.0675	.0168	.0507
November	.0700	.0176	.0524
December	.0725	.0190	.0535
1888.			
January	.0775	.0217	.0558
February	.0775	.0214	.0561
March	.0775	.0223	.0552
April	.0737	.0193	.0544
May	.0750	.0207	.0543
June	.0712	.0181	.0531
July	.0725	.0192	.0533
August	.0762	.0206	.0556
September	.0775	.0223	.0552
October	.0762	.0216	.0546
November	.0725	.0204	.0521
December	.0725	.0212	.0513
1889.			
January	.0700	.0205	.0495
February	.0712	.0212	.0500
March	.0700	.0216	.0484
April	.0687	.0209	.0478
May	.0687	.0198	.0489
June	.0687	.0203	.0484
July	.0725	.0226	.0499
August	.0725	.0204	.0521
September	.0712	.0205	.0507
October	.0712	.0241	.0471
November	.0750	.0258	.0492
December	.0750	.0248	.0502
1890.			
January	.0750	.0250	.0500
February	.0750	.0250	.0500
March	.0725	.0213	.0512
April	.0712	.0197	.0515
May	.0725	.0211	.0514
June	.0712	.0212	.0500
July	.0712	.0212	.0500
August	.0725	.0212	.0513
September	.0737	.0195	.0542
October	.0750	.0191	.0559
November	.0950	.0172	.0578
December	.0725	.0160	.0565
1891.			
January	.0742	.0176	.0566
February	.0748	.0185	.0563
March	.0731	.0177	.0554
April	.0718	.0169	.0549
May	.0720	.0166	.0554
June	.0713	.0162	.0551
July	.0702	.0158	.0544
August	.0670	.0152	.0518
September	.0642	.0139	.0503
October	.0645	.0144	.0501
November	.0640	.0141	.0499
December	.0644	.0141	.0503
1892.			
January	.0645	.0149	.0496
February	.0642	.0143	.0499
March	0632	.0137	.0495
April	0610	.0138	.0472
May	.0606	.0135	.0471
June	.0600	.0129	.0471
July	.0600	.0125	.0475
August	.0608	.0131	.0477
September	.0610	.0129	.0481
October	.0603	.0122	.0481
November	.0580	.0123	.0457
December	.0545	.0127	.0418

MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899—Concluded.

Year and month.	Product—refined export oil at New York, per gallon.	Material—crude oil at Oil City, per gallon.	Difference.	Year and month.	Product—refined export oil at New York, per gallon.	Material—crude oil at Oil City, per gallon.	Difference
1893.				1896.			
January	$0.0533	$0.0127	$0.0406	July	$0.0655	$0.0260	$0.0395
February	.0530	.0137	.0393	August	.0665	.0250	.0415
March	.0534	.0155	.0379	September	.0685	.0268	.0417
April	.0552	.0163	.0389	October	.0690	.0274	.0416
May	.0520	.0140	.0380	November	.0715	.0275	.0440
June	.0521	.0144	.0377	December	.0635	.0233	.0402
July	.0515	.0137	.0378				
August	.0518	.0140	.0378	1897.			
September	.0515	.0154	.0361	January	.0613	.0210	.0403
October	.0515	.0168	.0347	February	.0626	.0215	.0411
November	.0515	.0176	.0339	March	.0636	.0219	.0417
December	.0515	.0187	.0328	April	.0613	.0205	.0408
				May	.0623	.0206	.0417
1894.				June	.0614	.0205	.0409
January	.0515	.0190	.0325	July	.0587	.0185	.0402
February	.0515	.0191	.0324	August	.0575	.0169	.0406
March	.0515	.0195	.0320	September	.0574	.0166	.0408
April	.0515	.0201	.0314	October	.0555	.0161	.0394
May	.0515	.0205	.0310	November	.0540	.0155	.0385
June	.0515	.0210	.0305	December	.0540	.0155	.0385
July	.0515	.0198	.0317				
August	.0515	.0193	.0322	1898.			
September	.0515	.0198	.0317	January	.0540	.0150	.0390
October	.0515	.0197	.0318	February	.0550	.0161	.0389
November	.0515	.0197	.0318	March	.0582	.0187	.0395
December	.0561	.0217	.0344	April	.0567	.0176	.0391
				May	.0601	.0196	.0405
1895.				June	.0616	.0207	.0409
January	.0587	.0235	.0352	July	.0626	.0222	.0404
February	.0600	.0242	.0358	August	.0644	.0232	.0412
March	.0675	.0255	.0420	September	.0663	.0242	.0421
April	.0912	.0422	.0490	October	.0721	.0269	.0452
May	.0820	.0388	.0432	November	.0735	.0277	.0458
June	.0783	.0359	.0424	December	.0742	.0279	.0463
July	.0765	.0345	.0420				
August	.0710	.0298	.0412	1899.			
September	.0710	.0298	.0412	January	.0743	.0278	.0465
October	.0710	.0298	.0412	February	.0740	.0274	.0466
November	.0788	.0341	.0447	March	.0734	.0269	.0465
December	.0777	.0342	.0435	April	.0705	.0269	.0436
				May	.0699	.0269	.0430
1896.				June	.0720	.0270	.0450
January	.0785	.0347	.0438	July	.0761	.0292	.0469
February	.0735	.0331	.0404	August	.0782	.0304	.0478
March	.0740	.0318	.0422	September	.0863	.0344	.0519
April	.0700	.0292	.0408	October	.0900	.0360	.0540
May	.0675	.0282	.0393	November	.0940	.0375	.0565
June	.0685	.0273	.0412	December	.0985	.0413	.0572

RELATIVE MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899.

[The combination controlling 82.3 per cent of this product was organized in 1882.]

Year and month.	Product—refined export oil.	Material—crude oil.	Year and month.	Product—refined export oil.	Material—crude oil.	Year and month.	Product—refined export oil.	Material—crude oil.
1866.			1867.			1868.		
Jan	100.0	100.0	Jan	53.6	37.5	Jan	42.8	39.0
Feb	84.0	88.0	Feb	48.8	37.1	Feb	43.2	45.0
Mar	70.6	75.0	Mar	47.5	35.0	Mar	44.5	52.0
Apr	69.3	79.0	Apr	46.7	39.0	Apr	45.4	59.0
May	74.3	92.4	May	46.2	47.0	May	51.2	73.5
June	72.4	70.0	June	42.8	38.0	June	54.2	86.6
July	68.3	60.0	July	53.3	52.5	July	59.2	101.6
Aug	76.7	75.0	Aug	50.5	63.0	Aug	57.0	86.6
Sept	77.1	90.1	Sept	54.9	67.9	Sept	53.6	78.0
Oct	70.2	67.9	Oct	59.6	72.9	Oct	51.8	82.5
Nov	61.8	62.0	Nov	47.5	51.0	Nov	53.3	74.1
Dec	54.0	39.0	Dec	42.8	37.5	Dec	56.6	85.0

RELATIVE MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899—Continued.

Year and month.	Product—refined export oil.	Material—crude oil.	Year and month.	Product—refined export oil.	Material—crude oil.	Year and month.	Product—refined export oil.	Material—crude oil.
1869.			1875.			1881.		
Jan	59.0	115.0	Jan	21.4	21.5	Jan	16.0	19.1
Feb	62.8	131.1	Feb	24.2	30.3	Feb	16.0	18.0
Mar	55.5	120.0	Mar	25.9	32.6	Mar	14.7	16.6
Apr	55.7	114.0	Apr	24.0	27.9	Apr	13.4	16.9
May	54.4	107.0	May	22.2	23.4	May	13.8	16.4
June	53.6	100.0	June	21.8	22.4	June	14.0	16.3
July	55.7	107.6	July	19.9	17.2	July	13.6	15.4
Aug	56.2	110.1	Aug	19.4	18.2	Aug	13.4	15.8
Sept	55.7	110.1	Sept	22.0	26.1	Sept	13.8	18.5
Oct	56.8	111.1	Oct	24.4	27.1	Oct	13.4	18.6
Nov	58.8	116.1	Nov	22.5	26.7	Nov	13.0	16.6
Dec	53.8	102.4	Dec	22.0	27.9	Dec	12.3	16.8
1870.			1876.			1882.		
Jan	54.2	90.6	Jan	24.4	35.7	Jan	12.1	16.6
Feb	51.6	92.5	Feb	24.6	40.3	Feb	12.7	17.1
Mar	46.7	86.1	Mar	25.1	41.4	Mar	12.7	16.2
Apr	45.8	85.0	Apr	24.2	38.1	Apr	12.7	15.7
May	47.5	90.6	May	24.4	38.2	May	13.0	14.0
June	46.7	85.0	June	25.5	40.7	June	13.0	10.9
July	44.9	76.1	July	29.2	45.8	July	11.7	11.5
Aug	43.2	63.4	Aug	34.3	55.0	Aug	11.9	11.8
Sept	45.1	69.5	Sept	44.9	76.1	Sept	13.0	14.2
Oct	42.1	64.5	Oct	44.9	66.1	Oct	13.8	18.7
Nov	39.7	65.5	Nov	45.4	66.6	Nov	14.3	22.9
Dec	39.7	68.0	Dec	50.8	75.7	Dec	13.2	19.2
1871.			1877.			1883.		
Jan	42.5	80.0	Jan	41.5	70.6	Jan	13.4	18.5
Feb	43.4	90.2	Feb	32.2	53.6	Feb	13.6	20.3
Mar	41.7	85.0	Mar	27.6	53.5	Mar	13.8	19.5
Apr	40.2	79.1	Apr	27.2	51.9	Apr	14.3	18.6
May	42.5	91.5	May	25.1	44.8	May	13.6	19.8
June	44.5	92.0	June	23.8	39.0	June	13.8	23.4
July	44.5	96.1	July	23.1	44.1	July	13.2	21.6
Aug	42.1	88.5	Aug	23.5	49.4	Aug	13.6	21.8
Sept	41.7	91.0	Sept	25.1	47.7	Sept	14.0	22.5
Oct	41.0	93.9	Oct	25.3	44.9	Oct	14.5	22.3
Nov	38.7	82.0	Nov	22.9	38.3	Nov	15.1	22.9
Dec	39.7	87.0	Dec	22.7	36.1	Dec	15.8	22.9
1872.			1878.			1884.		
Jan	38.7	80.5	Jan	20.9	28.9	Jan	16.2	22.3
Feb	37.6	74.5	Feb	21.2	33.2	Feb	15.8	21.0
Mar	39.1	72.0	Mar	20.1	31.8	Mar	14.7	20.1
Apr	37.6	70.6	Apr	19.6	27.4	Apr	14.9	19.7
May	40.4	78.0	May	19.4	27.1	May	14.7	17.1
June	39.7	79.2	June	19.4	22.8	June	14.0	13.8
July	38.7	73.5	July	18.6	19.7	July	13.6	12.7
Aug	38.7	69.5	Aug	18.8	20.2	Aug	13.8	16.2
Sept	41.7	63.0	Sept	17.7	17.3	Sept	13.6	15.6
Oct	44.9	83.5	Oct	16.6	16.5	Oct	13.6	14.2
Nov	46.7	87.0	Nov	15.8	18.0	Nov	13.6	14.5
Dec	44.9	65.8	Dec	16.6	19.2	Dec	13.4	14.9
1873.			1879.			1885.		
Jan	38.2	47.5	Jan	15.6	20.6	Jan	13.4	14.2
Feb	33.9	44.0	Feb	16.2	19.6	Feb	13.4	14.6
Mar	32.8	42.0	Mar	16.0	17.2	Mar	13.8	16.1
Apr	34.6	49.0	Apr	15.8	15.7	Apr	13.6	15.8
May	34.1	50.0	May	14.7	15.1	May	13.4	15.9
June	32.8	43.5	June	13.0	13.8	June	13.8	16.5
July	31.3	36.2	July	11.7	13.9	July	14.3	19.3
Aug	28.5	26.8	Aug	11.4	13.4	Aug	14.5	20.1
Sept	28.5	25.5	Sept	11.9	13.9	Sept	14.5	20.2
Oct	28.1	24.8	Oct	13.0	17.6	Oct	14.7	21.1
Nov	24.4	21.5	Nov	13.8	21.1	Nov	14.7	20.8
Dec	23.3	19.5	Dec	14.9	23.7	Dec	13.8	17.9
1874.			1880.			1886.		
Jan	23.3	26.6	Jan	13.6	22.1	Jan	13.4	17.6
Feb	25.9	38.0	Feb	13.6	20.7	Feb	13.2	16.1
Mar	25.7	36.0	Mar	13.4	17.9	Mar	12.7	15.5
Apr	27.0	39.2	Apr	13.2	15.4	Apr	12.7	14.8
May	24.0	23.0	May	13.2	16.1	May	12.5	13.9
June	22.2	23.7	June	16.6	20.1	June	12.3	13.4
July	20.9	20.2	July	17.1	20.3	July	12.1	13.2
Aug	20.3	20.0	Aug	15.6	18.2	Aug	11.7	12.4
Sept	20.9	19.5	Sept	18.4	19.2	Sept	11.4	12.7
Oct	20.3	17.5	Oct	20.7	19.4	Oct	11.7	13.0
Nov	18.6	14.5	Nov	18.1	18.3	Nov	11.9	14.5
Dec	19.4	17.5	Dec	16.4	18.6	Dec	11.9	14.2

RELATIVE MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899—Concluded.

Year and month.	Product—refined export oil.	Material—crude oil.	Year and month.	Product—refined export oil.	Material—crude oil.	Year and month.	Product—refined export oil.	Material—crude oil.
1887.			1891.			1895.		
Jan	11.7	14.2	May	12.4	13.9	Sept	12.3	25.0
Feb	11.4	12.7	June	12.3	13.6	Oct	12.3	25.0
Mar	11.4	12.7	July	12.1	13.3	Nov	13.6	28.7
Apr	11.4	12.9	Aug	11.6	12.8	Dec	13.4	28.7
May	11.7	12.9	Sept	11.1	11.7			
June	11.4	12.5	Oct	11.1	12.1	1896.		
July	11.2	11.8	Nov	11.1	11.8	Jan	13.6	29.2
Aug	11.2	12.0	Dec	11.1	11.8	Feb	12.7	27.8
Sept	11.7	13.4				Mar	12.8	26.7
Oct	11.7	14.1	1892.			Apr	12.1	24.5
Nov	12.1	14.8	Jan	11.1	12.5	May	11.7	23.7
Dec	12.5	16.0	Feb	11.1	12.0	June	11.8	22.9
			Mar	10.9	11.5	July	11.3	21.8
1888.			Apr	10.5	11.6	Aug	11.5	21.0
Jan	13.4	18.2	May	10.5	11.3	Sept	11.8	22.5
Feb	13.4	18.0	June	10.4	10.8	Oct	11.9	23.0
Mar	13.4	18.7	July	10.4	10.5	Nov	12.4	23.1
Apr	12.7	16.2	Aug	10.5	11.0	Dec	11.0	19.6
May	13.0	17.4	Sept	10.5	10.8			
June	12.3	15.2	Oct	10.4	10.3	1897.		
July	12.5	16.1	Nov	10.0	10.3	Jan	10.6	17.6
Aug	13.2	17.3	Dec	9.4	10.7	Feb	10.8	18.1
Sept	13.4	18.7				Mar	11.0	18.4
Oct	13.2	18.2	1893.			Apr	10.6	17.2
Nov	12.5	17.1	Jan	9.2	10.7	May	10.8	17.3
Dec	12.5	17.8	Feb	9.2	11.5	June	10.6	17.2
			Mar	9.2	13.0	July	10.1	15.5
1889.			Apr	9.5	13.7	Aug	9.9	14.2
Jan	12.1	17.2	May	9.0	11.8	Sept	9.9	13.9
Feb	12.3	17.8	June	9.0	12.1	Oct	9.6	13.5
Mar	12.1	18.2	July	8.9	11.5	Nov	9.3	13.0
Apr	11.9	17.6	Aug	9.0	11.8	Dec	9.3	13.0
May	11.9	16.6	Sept	8.9	12.9			
June	11.9	17.1	Oct	8.9	14.1	1898.		
July	12.5	19.0	Nov	8.9	14.8	Jan	9.3	12.6
Aug	12.5	17.1	Dec	8.9	15.7	Feb	9.5	13.5
Sept	12.3	17.2				Mar	10.1	15.7
Oct	12.3	20.3	1894.			Apr	9.8	14.8
Nov	13.0	21.7	Jan	8.9	16.0	May	10.4	16.5
Dec	13.0	20.8	Feb	8.9	16.1	June	10.6	17.4
			Mar	8.9	16.4	July	10.8	18.7
1890.			Apr	8.9	16.9	Aug	11.1	19.5
Jan	13.0	21.0	May	8.9	17.2	Sept	11.5	20.3
Feb	13.0	21.0	June	8.9	17.6	Oct	12.5	22.6
Mar	12.5	17.9	July	8.9	16.6	Nov	12.7	23.3
Apr	12.3	16.6	Aug	8.9	16.2	Dec	12.8	23.4
May	12.5	17.7	Sept	8.9	16.6			
June	12.3	17.8	Oct	8.9	16.6	1899.		
July	12.3	17.8	Nov	8.9	16.6	Jan	12.8	23.4
Aug	12.5	17.8	Dec	9.7	18.2	Feb	12.8	23.0
Sept	12.7	16.4				Mar	12.7	22.6
Oct	13.0	16.1	1895.			Apr	12.2	22.6
Nov	16.4	14.5	Jan	10.1	19.7	May	12.1	22.6
Dec	12.5	13.4	Feb	10.4	20.3	June	12.4	22.7
			Mar	11.7	21.4	July	13.2	24.5
1891.			Apr	15.8	35.5	Aug	13.5	25.5
Jan	12.8	14.8	May	14.2	32.6	Sept	14.9	28.9
Feb	12.9	15.5	June	13.5	30.2	Oct	15.6	30.3
Mar	12.6	14.9	July	13.2	29.0	Nov	16.2	31.5
Apr	12.4	14.2	Aug	12.3	25.0	Dec	17.0	34.7

The Standard Oil Company was formally organized as a trust in 1882, although there had been for some ten years before that time more or less definite agreements among leading oil refiners, who afterwards entered the trust. It will be noted that the margin between the crude and refined oil fell very rapidly in the early years of the industry. This, of course, was to be expected, inasmuch as the art of refining oil was a new one and improvements in methods of production were naturally made very rapidly in the earlier years. There was a decided increase in the margin as well as in the price of refined oil in 1890.

After the formation of the trust, in 1882, there was a com
slight increase in the margin for several years, especially in
1884 and 1885. Thereafter it remained substantially steady fc
until the beginning of 1892. The margin then fell quite r
3 years, reaching the lowest point in 1894. After the beg
1898 there was a decided increase in the margin throughout
1899. According to the statements of many refiners, there h
large increase in the value of by-products during late years.
the material which in the earlier years of the industry was
waste product has of late years been manufactured into nap
various other products, so that profits from the by-produ
equaled in value those from illuminating oil. Under these c
it was to be expected that the price of illuminating oil woul
decrease and that the margin between the crude oil and the i
ing oil would decrease. When, therefore, during the later y
margin did not decrease, but on the whole tended to increa
fair assumption that, other things being equal, the profits of
ture were also increased. During the years 1899 and 190
other hand, there have been some added expenses in the cost
facture, coming in part from the increase of prices of acids
also from the very decided increase in the price of iron, the
being constructed largely of iron and the deterioration in th
rapid. There has also of late been an increase in the cost of t
ages in which refined oil is carried. For the last year, therefo
various factors would explain in part the increase in the mar

The changes in the absolute price of the crude oil, so far
which have extended over a considerable period of time are co
have been due, apparently, chiefly to the changes in supply.
ample, the rapid fall in price noted in 1873 and 1874 was ap
due to the discovery of the very productive oil wells in Butler
Pa., although there may have been also other contributory
There was a decided checking in the flow of these wells during
or three years following 1874, which probably accounts in t
for the increase in price at that time. The discovery of the ri
ford fields, in 1876, probably caused the very great decrease i
immediately following. These changes seem to show the effe
discovery and exhaustion of the different wells, and in the
have nothing to do with the combination in oil, and with th
combination can have had little to do, whatever effect it may h
in changing the price of crude and refined oils in other pl
comparatively short times, as has often been charged. The
effects as shown by the margin can not be interpreted more
than has been indicated, except by experts in the business wh
in detail the various elements which enter into the manu

The monthly prices of standard white illuminating oil at Chicago, Cincinnati, and New York, 1885 to 1899, are shown in the following table:

MONTHLY PRICES OF STANDARD WHITE ILLUMINATING OIL AT CHICAGO, CINCINNATI, AND NEW YORK, 1885 TO 1899.

[The prices shown are from the Report of the Industrial Commission on Trusts and Industrial Combinations, Part II, pages 51, 547, and 548. Prices given are for oil in bulk exclusive of the package; 2¼ cents per gallon added will give average price including barrel. The combination controlling 82.3 per cent of this product was organized in 1882.]

Year and month.	At Chicago, per gallon.	At Cincinnati, per gallon.	At New York, per gallon.	Year and month.	At Chicago, per gallon.	At Cincinnati, per gallon.	At New York, per gallon.
1885.				1890.			
January	$0.0483	$0.0456	$0.0616	January	$0.0503	$0.0465	$0.0466
February	.0488	.0461	.0609	February	.0483	.0440	.0487
March	.0507	.0480	.0596	March	.0481	.0440	.0463
April	.0500	.0473	.0603	April	.0481	.0430	.0454
May	.0493	.0466	.0669	May	.0494	.0420	.0440
June	.0486	.0459	.0602	June	.0482	.0420	.0432
July	.0520	.0493	.0588	July	.0456	.0420	.0472
August	.0527	.0500	.0608	August	.0430	.0417	.0481
September	.0551	.0524	.0611	September	.0433	.0412	.0481
October	.0570	.0543	.0635	October	.0434	.0402	.0485
November	.0604	.0577	.0651	November	.0497	.0402	.0487
December	.0609	.0582	.0647	December	.0418	.0402	.0469
1886.				1891.			
January	.0608	.0581	.0640	January	.0405	.0399	.0447
February	.0600	.0573	.0647	February	.0434	.0377	.0444
March	.0556	.0529	.0612	March	.0404	.0350	.0442
April	.0537	.0510	.0590	April	.0401	.0340	.0448
May	.0519	.0492	.0589	May	.0408	.0348	.0444
June	.0502	.0475	.0559	June	.0406	.0355	.0418
July	.0498	.0471	.0576	July	.0406	.0350	.0413
August	.0497	.0470	.0565	August	.0389	.0362	.0396
September	.0495	.0468	.0562	September	.0413	.0347	.0408
October	.0493	.0466	.0546	October	.0397	.0333	.0397
November	.0488	.0461	.0541	November	.0403	.0334	.0399
December	.0496	.0469	.0543	December	.0404	.0333	.0370
1887.				1892.			
January	.0488	.0461	.0563	January	.0382	.0332	.0361
February	.0490	.0463	.0552	February	.0372	.0332	.0291
March	.0471	.0444	.0545	March	.0374	.0332	.0446
April	.0474	.0447	.0509	April	.0338	.0332	.0345
May	.0468	.0441	.0521	May	.0328	.0333	.0333
June	.0470	.0443	.0473	June	.0328	.0333	.0365
July	.0459	.0432	.0485	July	.0342	.0331	.0365
August	.0452	.0425	.0471	August	.0334	.0334	.0356
September	.0453	.0426	.0467	September	.0329	.0333	.0358
October	.0450	.0423	.0461	October	.0338	.0325	.0359
November	.0479	.0452	.0467	November	.0340	.0331	.0346
December	.0492	.0465	.0494	December	.0340	.0333	.0291
1888.				1893.			
January	.0531	.0504	.0539	January	.0351	.0333	.0337
February	.0551	.0524	.0549	February	.0363	.0333	.0280
March	.0540	.0513	.0544	March	.0357	.0333	.0283
April	.0513	.0486	.0555	April	.0347	.0333	.0358
May	.0503	.0476	.0554	May	.0375	.0333	.0371
June	.0493	.0466	.0556	June	.0370	.0316	.0383
July	.0492	.0465	.0547	July	.0365	.0305	.0390
August	.0470	.0443	.0452	August	.0369	.0303	.0368
September	.0503	.0476	.0473	September	.0364	.0305	.0386
October	.0535	.0508	.0481	October	.0356	.0306	.0332
November	.0518	.0491	.0503	November	.0363	.0308	.0383
December	.0501	.0474	.0510	December	.0380	.0307	.0332
1889.				1894.			
January	.0513	.0486	.0562	January	.0358	.0306	.0345
February	.0522	.0495	.0557	February	.0369	.0309	.0364
March	.0523	.0496	.0544	March	.0357	.0308	.0302
April	.0517	.0490	.0517	April	.0354	.0307	.0390
May	.0507	.0480	.0501	May	.0324	.0302	.0344
June	.0507	.0481	.0482	June	.0351	.0307	.0368
July	.0502	.0475	.0481	July	.0315	.0306	.0371
August	.0520	.0493	.0481	August	.0351	.0302	.0371
September	.0525	.0498	.0478	September	.0372	.0305	.0336
October	.0523	.0496	.0472	October	.0347	.0303	.0360
November	.0508	.0481	.0483	November	.0354	.0306	.0358
December	.0521	.0494	.0477	December	.0336	.0309	.0353

MONTHLY PRICES OF STANDARD WHITE ILLUMINATING OIL AT CHICAGO, CINCINNATI, AND NEW YORK, 1885 TO 1899—Concluded.

Year and month.	At Chicago, per gallon.	At Cincinnati, per gallon.	At New York, per gallon.	Year and month.	At Chicago, per gallon.	At Cincinnati, per gallon.	At New York, per gallon.
1895.				1897.			
January	$0.0317	$0.0311	$0.0450	July	$0.0277	$0.0280	$0.0331
February	.0369	.0330	.0442	August	.0279	.0280	.0330
March	.0408	.0382	.0450	September	.0280	.0265	.0314
April	.0485	.0595	.0653	October	.0253	.0261	.0304
May	.0391	.0508	.0496	November	.0278	.0265	.0305
June	.0406	.0487	.0455	December	.0280	.0264	.0325
July	.0364	.0432	.0449	1898.			
August	.0325	.0381	.0379	January	.0277	.0267	.0305
September	.0326	.0383	.0380	February	.0282	.0267	.0309
October	.0374	.0384	.0381	March	.0297	.0298	.0380
November	.0441	.0418	.0465	April	.0309	.0292	.0362
December	.0489	.0482	.0506	May	.0304	.0291	.0362
1896.				June	.0304	.0291	.0353
January	.0499	.0470	.0499	July	.0303	.0291	.0396
February	.0452	.0431	.0483	August	.0303	.0289	.0405
March	.0412	.0399	.0478	September	.0319	.0306	.0402
April	.0389	.0384	.0449	October	.0343	.0332	.0422
May	.0375	.0346	.0409	November	.0349	.0332	.0410
June	.0347	.0307	.0440	December	.0350	.0345	.0415
July	.0318	.0315	.0360	1899.			
August	.0325	.0309	.0347	January	.0380	.0368	.0428
September	.0331	.0307	.0332	February	.0381	.0368	.0434
October	.0324	.0298	.0370	March	.0360	.0344	.0401
November	.0309	.0283	.0374	April	.0353	.0343	.0408
December	.0313	.0285	.0344	May	.0352	.0340	.0405
1897.				June	.0352	.0340	.0398
January	.0306	.0282	.0330	July	.0372	.0363	.0427
February	.0300	.0282	.0331	August	.0379	.0367	.0434
March	.0299	.0282	.0343	September	.0459	.0452	.0498
April	.0303	.0265	.0353	October	.0479	.0466	.0501
May	.0284	.0259	.0354	November	.0534	.0516	.0564
June	.0279	.0262	.0355	December	.0570	.0552	.0600

SPIRITS.—The following tables show, first, the monthly prices of proof spirits per gallon with and without the internal-revenue tax, the prices less tax and rebates, and the prices of the material entering into the manufacture of spirits (corn) per bushel; and, second, the relative prices of proof spirits less tax and rebates and of corn, based upon the first table:

MONTHLY PRICES OF PROOF SPIRITS AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1884 TO 1899.

[The prices shown are from the Report of the Industrial Commission on Trusts and Industrial Combinations, Part II, pp. 816 and 817. The combination controlling a large proportion of this product was organized in 1887; reorganized 1890, 1895, and 1899.]

Year and month	Proof spirits per gallon.	Proof spirits less tax per gallon.	Proof spirits less tax and rebates per gallon.	Proof spirits from one bushel of corn.	Corn per bushel	Proof spirits from one bushel of corn less price of corn.	Year and month	Proof spirits per gallon.	Proof spirits less tax per gallon.	Proof spirits less tax and rebates per gallon.	Proof spirits from one bushel of corn.	Corn per bushel	Proof spirits from one bushel of corn less price of corn.
1884.							1885.						
Jan	$1.159	$0.259	.....	$1.062	$0.544	$0.518	Jan	$1.122	$0.222	.....	$0.988	$0.372	$0.616
Feb	1.169	.269	.....	1.102	.535	.567	Feb	1.140	.240	.....	1.068	.372	.696
Mar	*a* .117	*a* .270	.....	*a*1.108	*a* .520	*a* .588	Mar	1.140	.240	.....	1.068	.392	.676
Apr	*a*1.164	*a* .274	.....	*a*1.122	*a* .501	*a* .621	Apr	1.140	.240	.....	1.068	.447	.621
May	1.120	.220	.....	.903	.547	.356	May	1.140	.240	.....	1.068	.468	.600
June	1.090	.190	.....	.780	.539	.241	June	1.140	.240	.....	1.068	.466	.602
July	1.074	.174	.....	.714	.528	.186	July	1.140	.240	.....	1.068	.466	.602
Aug	1.050	.150	.....	.615	.530	.085	Aug	1.140	.240	.....	1.068	.452	.616
Sept	1.105	.205	.....	.841	.694	.147	Sept	1.050	.150	.....	.668	.430	.238
Oct	1.110	.210	.....	.862	.502	.360	Oct	1.050	.150	.....	.668	.422	.246
Nov	1.118	.218	.....	.895	.401	.494	Nov	1.090	.190	.....	.846	.432	.414
Dec	1.120	.220	.....	.903	.374	.529	Dec	1.095	.195	.....	.868	.396	.472

a The figures here shown do not appear to harmonize when tested by the method of calculation explained on p. 730; the Department, however, was not able to gain access to the original sources used by the Industrial Commission and was not, therefore, able to make corrections with confidence. Apparent errors of 1 mill have not been noted.

MONTHLY PRICES OF PROOF SPIRITS AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1884 TO 1899—Continued.

Year and month	Proof spirits per gallon.	Proof spirits less tax per gallon.	Proof spirits less tax and rebates per gallon.	Proof spirits from one bushel of corn.	Corn per bushel	Proof spirits from one bushel of corn less price of corn.
1886.						
Jan...	$1.100	$0.200	.....	$0.910	$0.366	$0.544
Feb...	1.100	.200	.....	.910	.372	.538
Mar ..	1.100	.200	.....	.910	.371	.539
Apr...	1.100	.200	.....	.910	.347	.563
May ..	1.100	.200	.....	.910	.355	.555
June..	1.100	.200	.....	.910	.347	.563
July ..	a1.082	a.182	.....	a.828	a.347	a.581
Aug ..	a1.098	a.198	.....	a.902	a.420	a.582
Sept ..	1.114	.214	.....	.975	.387	.588
Oct ...	1.140	.240	.....	1.092	.349	.743
Nov ..	1.140	.240	.....	1.092	.362	.730
Dec...	1.140	.240	.....	1.092	.369	.723
1887.						
Jan...	1.140	.240	.....	1.108	.365	.743
Feb...	a1.140	a.240	.....	a1.108	a.347	a.771
Mar ..	1.140	.240	.....	1.108	.357	.751
Apr...	1.140	.240	.....	1.108	.365	.743
May ..	1.064	.164	.....	.758	.379	.379
June..	1.060	.160	.....	.739	.371	.368
July ..	1.050	.150	.....	.693	.365	.328
Aug ..	1.050	.150	.....	.693	.402	.291
Sept ..	1.050	.150	.....	.693	.419	.274
Oct ...	1.050	.150	.....	.693	.417	.276
Nov ..	1.050	.150	.....	.693	.442	.251
Dec...	1.050	.150	.....	.693	.488	.205
1888.						
Jan...	1.090	.190	.....	.862	.487	.375
Feb...	1.090	.190	.....	.862	.472	.390
Mar ..	1.090	.190	.....	.862	.475	.387
Apr...	1.090	.190	.....	.862	.519	.343
May ..	1.103	.203	.....	.920	.572	.348
June..	1.140	.240	.....	1.088	.512	.576
July ..	1.140	.240	.....	1.088	.479	.609
Aug ..	1.140	.240	.....	1.088	.453	.635
Sept ..	1.140	.240	.....	1.088	.433	.655
Oct ...	1.140	.240	.....	1.088	.436	.652
Nov ..	1.140	.240	.....	1.088	.363	.725
Dec...	1.140	.240	.....	1.088	.347	.741
1889.						
Jan...	1.052	.152	.....	.706	.343	.363
Feb...	1.040	.140	.....	.650	.345	.305
Mar ..	1.040	.140	.....	.650	.345	.305
Ap....	1.036	.136	.....	.632	.344	.288
May ..	1.030	.130	.....	.604	.345	.259
June..	1.030	.130	.....	.604	.345	.259
July ..	1.030	.130	.....	.604	.360	.244
Aug ..	1.030	.130	.....	.604	.347	.257
Sept ..	1.030	.130	.....	.604	.322	.282
Oct ...	1.030	.130	.....	.604	.320	.284
Nov ..	1.030	.130	.....	.604	.458	.146
Dec...	1.030	.130	.....	.604	.321	.283
1890.						
Jan...	1.030	.130	.....	.607	.291	.316
Feb...	1.030	.130	.....	.607	.277	.330
Mar ..	1.030	.130	.....	.607	.287	.320
Apr...	1.030	.130	.....	.607	.313	.294
May ..	1.053	.153	.....	.715	.339	.376
June..	1.100	.200	$0.136	.635	.339	.296
July ..	1.109	.209	.145	.677	.402	.275
Aug ..	1.138	.238	.174	.812	.480	.332
Sept ..	1.142	.242	.178	.831	.507	.324
Oct ...	1.142	.242	.178	.831	.497	.334
Nov ..	1.150	.250	.186	.869	.515	.354
Dec...	1.150	.250	.186	.869	.504	.365
1891.						
Jan...	1.150	.250	.186	.876	.488	.388
Feb...	1.150	.250	.186	.876	.524	.352
Mar ..	a1.630	a.263	a.199	a.937	a.620	a.317
Apr...	1.178	.278	.214	1.008	.709	.299
May .	$1.176	$0.276	$0.212	$0.998	$0.612	$0.386
June.	1.170	.270	.206	.970	.581	.389
July .	1.170	.270	.206	.970	.615	.355
Aug .	1.174	.274	.210	.989	.632	.357
Sept .	1.180	.280	.216	1.018	.584	.434
Oct ..	1.180	.280	.216	1.018	.552	.466
Nov .	1.180	.280	.216	1.018	.635	.383
Dec..	a1.180	a.280	a.199	a.927	a.492	a.445
1892.						
Jan..	1.173	.273	.192	.888	.383	.505
Feb..	1.142	.242	.161	.745	.405	.340
Mar .	1.133	.233	.152	.703	.395	.308
Apr..	a1.130	a.233	a.152	a.703	a.406	a.297
May .	1.140	.240	.159	.735	.703	.032
June.	1.155	.255	.174	.805	.508	.297
July .	1.150	.250	.169	.781	.497	.284
Aug .	1.150	.250	.169	.781	.518	.263
Sept .	a1.150	a.150	a.169	a.781	a.462	a.319
Oct ..	1.150	.250	.169	.781	.425	.356
Nov	1.150	.250	.169	.781	.415	.366
Dec .	1.256	.356	.275	1.271	.413	.858
1893.						
Jan..	1.331	.431	.350	1.635	.426	1.209
Feb..	a1.170	a.270	a.189	a.888	a.420	a.468
Mar .	a1.170	a.270	a.189	a.888	a.408	a.480
Apr..	1.143	.243	.160	.747	.407	.340
May .	a1.125	a.225	a.142	a.653	a.420	a.243
June.	1.120	.220	.137	.640	.395	.245
July .	1.120	.220	.137	.640	.389	.251
Aug .	1.120	.220	.137	.640	.382	.258
Sept .	1.120	.220	.137	.640	.399	.241
Oct ..	1.135	.235	.152	.710	.390	.320
Nov .	1.150	.250	.167	.780	.372	.408
Dec..	1.150	.250	.167	.780	.354	.426
1894.						
Jan..	1.150	.250	.167	.797	.349	.448
Feb..	1.150	.250	.167	.797	.347	.450
Mar .	1.150	.250	.167	.797	.357	.440
Apr..	1.150	.250	.167	.797	.379	.418
May .	1.150	.250	.167	.797	.376	.421
June.	1.154	.254	.171	.817	.399	.418
July .	1.210	.310	.227	1.083	.435	.648
Aug .	a1.254	a.354 a.154	a.271 a.071	a1.298 a.339	a.531	a.767 a−.198
Sept .	1.330	.230	.147	.702	.530	.172
Oct ..	1.240	.140	.120	.573	.507	.066
Nov .	1.230	.130	.110	.525	.500	.025
Dec..	1.228	.128	.108	.516	.461	.055
1895.						
Jan ..	1.229	.129	.109	.508	.430	.078
Feb..	1.200	.100	.100	.466	.421	.045
Mar .	1.227	.127	.....	.592	.444	.148
Apr..	a1.203	a.103	.....	a.470	a.469	a.001
May .	a1.223	a.123	.....	a.573	a.518	a.057
June.	1.242	.142	.....	.662	.500	.162
July .	1.237	.137	.....	.638	.446	.192
Aug .	1.212	.112	.....	.522	.404	.118
Sept .	a1.190	a.090	.....	a.415	a.339	a.076
Oct ..	a1.191	a.091	.....	a.419	a.304	a.115
Nov .	a1.195	a.095	.....	a.438	a.282	a.156
Dec..	a1.195	a.095	.....	a.438	a.259	a.179
1896.						
Jan ..	1.215	.115	.....	.538	.269	.269
Feb..	a1.215	a.115	.....	a.538	a.285	a.243
Mar .	1.215	.115	.....	.538	.286	.252
Apr..	1.215	.115	.....	.538	.296	.242
May .	1.215	.115	.....	.538	.285	.253
June.	1.215	.115	.....	.538	.274	.264
July .	1.206	.106	.....	.496	.260	.236

a The figures here shown do not appear to harmonize when tested by the method of calculation explained on p. 730; the Department, however, was not able to gain access to the original sources used by the Industrial Commission and was not, therefore, able to make corrections with confidence. Apparent errors of 1 mill have not been noted.

MONTHLY PRICES OF PROOF SPIRITS AND THE MATERIAL ENTERING INT
FACTURE, 1884 TO 1899—Concluded.

Year and month	Proof spirits per gallon.	Proof spirits less tax per gallon.	Proof spirits less tax and rebates per gallon.	Proof spirits from one bushel of corn.	Corn per bushel	Proof spirits from one bushel of corn less price of corn.
1896.						
Aug ..	$1.196	$0.096	.....	$0.450	$0.227	$0.223
Sept ..	1.192	.092	.....	.431	.209	.222
Oct ...	1.185	.085	.....	.398	.244	.154
Nov ..	1.185	.085	.....	.398	.241	.157
Dec...	1.185	.085	.....	.398	.231	.167
1897.						
Jan ...	1.170	.070	.....	.328	.225	.102
Feb...	1.165	.065	.....	.305	.225	.080
Mar ..	1.165	.065	.....	.305	.237	.068
Apr...	1.182	.082	.....	.385	.242	.143
May ..	1.187	.087	.....	.408	.242	.166
June .	1.187	.087	.....	.408	.244	.164
July ..	1.187	.087	.....	.408	.264	.144
Aug ..	1.192	.092	.....	.432	.294	.138
Sept ..	1.208	.103	.....	.483	.296	.187
Oct ...	1.187	.087	.....	.408	.265	.143
Nov ..	1.184	.084	.....	.394	.267	.127
Dec...	1.182	.082	.....	.385	.262	.123
1898.						
Jan ...	1.182	.082	.....	.394	.271	.123
Feb...	1.186	.086	.....	.413	.289	.124
Mar ..	1.192	.092	.....	.442	.289	.153
1898.						
Apr..	$1.197	$0.097	.....	$0.466		
May .	1.219	.119	.....	.571		
June.	1.224	.124	.....	.595		
July .	1.242	.142	.....	.682		
Aug .	1.242	.142	.....	.682		
Sept .	1.242	.142	.....	.682		
Oct ..	1.242	.142	.....	.682		
Nov .	1.245	.145	.....	.696		
Dec..	1.252	.152	.....	.730		
1899.						
Jan ..	1.247	.147	.....	.689		
Feb..	1.240	.140	.....	.656		
Mar .	1.240	.140	.....	.656		
Apr..	1.240	.140	.....	.656		
May .	1.240	.140	.....	.656		
June.	1.240	.140	.....	.656		
July .	1.240	.140	.....	.656		
Aug .	1.240	.140	.....	.656		
Sept .	1.210	.110	.....	.516		
Oct ..	1.220	.120	.....	.563		
Nov .	1.226	.126	.....	.591		
Dec..	1.225	.125	.....	.587		

RELATIVE MONTHLY PRICES OF PROOF SPIRITS AND THE MATERIAL EN
ITS MANUFACTURE, 1884 TO 1899.

[This table is based on the preceding one; see note *a*, pp. 726 and 727. The combinat
a large proportion of this product was organized in 1887; reorganized 1890, 1895,

Year and month.	Proof spirits less tax and rebates.	Corn.
1884.		
January.....	100.0	100.0
February	103.9	98.3
March	104.2	96.6
April.....	105.8	92.1
May	84.9	100.6
June	73.4	99.1
July.....	67.2	97.1
August.....	57.9	97.4
September ...	79.2	127.6
October.....	81.1	92.3
November ...	84.2	73.7
December....	84.9	68.8
1885.		
January.....	85.7	68.4
February	92.7	68.4
March	92.7	72.1
April.....	92.7	82.2
May.....	92.7	86.0
June	92.7	85.7
July.....	92.7	85.7
August.....	92.7	83.1
September ...	57.9	79.0
October.....	57.9	77.6
November ...	73.4	79.4
December....	75.3	72.8
1886.		
January.....	77.2	67.3
February	77.2	68.4
March	77.2	68.2
April.....	77.2	63.8
May.....	77.2	65.3
June	77.2	63.8
1886.		
July.....	70.3	63.8
August.....	76.4	77.2
September ..	82.6	71.1
October	92.7	64.2
November ..	92.7	66.5
December...	92.7	67.8
1887.		
January.....	92.7	67.1
February....	92.7	63.8
March.....	92.7	65.6
April.....	92.7	67.1
May	63.3	69.7
June	61.8	68.2
July.....	57.9	67.1
August.....	57.9	73.9
September ..	57.9	77.0
October	57.9	76.7
November ..	57.9	81.3
December...	57.9	89.7
1888.		
January.....	73.4	89.5
February ...	73.4	86.8
March	73.4	87.3
April.....	73.4	95.4
May.....	78.4	105.1
June	92.7	94.1
July.....	92.7	88.1
August.....	92.7	83.3
September ..	92.7	79.6
October	92.7	80.1
November ..	92.7	66.7
December...	92.7	63.8
1889.		
January.....		
February ...		
March		
April.....		
May.....		
June		
July.....		
August.....		
September ..		
October		
November ..		
December...		
1890.		
January.....		
February....		
March		
April.....		
May.....		
June		
July.....		
August.....		
September ..		
October		
November ..		
December...		
1891.		
January.....		
February ...		
March		
April.....		
May.....		
June		

RELATIVE MONTHLY PRICES OF PROOF SPIRITS AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1884 TO 1899—Concluded.

Year and month.	Proof spirits less tax and rebates.	Corn.	Year and month.	Proof spirits less tax and rebates.	Corn.	Year and month.	Proof spirits less tax and rebates.	Corn.
1891.			1894.			1897.		
July	79.5	113.1	June	66.0	73.3	March	25.1	43.6
August	81.1	116.2	July	87.6	80.0	April	31.7	44.5
September	83.4	107.4	August	104.6 / 27.4	97.6	May	33.6	44.5
October	83.4	101.5	September	56.8	97.4	June	33.6	44.9
November	83.4	116.7	October	46.3	93.2	July	33.6	48.5
December	76.8	90.4	November	42.5	91.9	August	35.5	54.0
1892.			December	41.7	84.7	September	39.8	54.4
January	74.1	70.4	1895.			October	33.6	48.7
February	62.2	74.4	January	42.1	79.0	November	32.4	49.1
March	58.7	72.6	February	38.6	77.4	December	31.7	48.2
April	58.7	74.6	March	49.0	81.6	1898.		
May	61.4	129.2	April	39.8	86.2	January	31.7	49.8
June	67.2	93.4	May	47.5	95.2	February	33.2	53.1
July	65.3	91.4	June	54.8	91.9	March	35.5	53.1
August	65.3	95.2	July	52.9	82.0	April	37.5	59.0
September	65.3	84.9	August	43.2	74.3	May	45.9	63.8
October	65.3	78.1	September	34.7	62.3	June	47.9	59.6
November	65.3	76.3	October	35.1	55.9	July	54.8	61.8
December	106.2	75.9	November	36.7	51.8	August	54.8	58.3
1893.			December	36.7	47.6	September	54.8	55.5
January	135.1	78.3	1896.			October	54.8	56.6
February	73.0	77.2	January	44.4	49.4	November	56.0	60.8
March	73.0	75.0	February	44.4	52.4	December	58.7	65.4
April	61.8	74.8	March	44.4	52.6	1899.		
May	54.8	77.2	April	44.4	54.4	January	56.8	67.5
June	52.9	72.6	May	44.4	52.4	February	54.1	64.7
July	52.9	71.5	June	44.4	50.4	March	54.1	63.6
August	52.9	70.2	July	40.9	47.8	April	54.1	63.8
September	52.9	73.3	August	37.1	41.7	May	54.1	61.4
October	58.7	71.7	September	35.5	38.4	June	54.1	63.2
November	64.5	68.4	October	32.8	44.9	July	54.1	60.5
December	64.5	65.1	November	32.8	44.3	August	54.1	58.3
1894.			December	32.8	42.5	September	42.5	60.8
January	64.5	64.2	1897.			October	46.3	58.8
February	64.5	63.8	January	27.0	41.4	November	48.6	58.1
March	64.5	65.6	February	25.1	41.4	December	48.3	56.1
April	64.5	69.7						
May	64.5	69.1						

In 1894 the tax on spirits was changed from 90 cents per gallon to $1.10 per gallon. The American Spirits Manufacturing Company, which controlled a large proportion of the product for some years, paid quite large rebates from the quoted market prices during the years 1890 to 1895. The amount of these rebates was secured as accurately as possible from the most trustworthy sources, but inasmuch as the companies have been reorganized twice since the rebates were paid, it is not entirely certain that the sum given for the rebates is exactly right at all of the dates.

It is somewhat difficult to see in this case the margin between the raw material and the finished product. The chief raw material is corn. In many cases the price of spirits is based directly upon that of corn, so that the fluctuations in the one correspond quite closely with fluctuations in the other. During the years covered by the tables various improvements were made in the methods of manufacture, so that the quantity of alcohol received from one bushel of corn was considerably increased. In the distilleries that were operated by the combination in the year 1884 there were secured on the average 4.10 gallons of proof spirits per bushel of corn. In 1888 the amount had increased to

4.53, in 1895 to 4.66, in 1898 to 4.80, and in 1 9 it was r 4.69. In order to calculate accurately the marg ı, therefor see as nearly as possible the effect of the combi..ation upon is necessary first to deduct from the market price of proof s revenue tax, then also the rebate during the period that th were paid, and to multiply this result by the number of gallon spirits extracted from one bushel of corn. The variations in gin, then, between the price of corn per bushel and this resu show substantially the variations in the profits of the combin long as the processes of manufacture remain substantially the

Before the organization of the whisky trust, in the earlie 1887, there had been several pools formed for the purpose of ing the output. Most of these pools lasted less than a year. be seen that in May, 1887, there was a very decided drop in t of spirits as compared with that of corn. It was asserte time that the price was cut by the combination for the pu forcing competitors to join. This cut in the price made, of c cut in the margin and a lessening in the profits of all distille price remained low until the close of the year. It was raised uary, 1888, and again in May, the price being enough to consi more than correspond to one or two increases in the price o The margin, showing the profits, increased of course very Through most of the year 1889 and the early part of 1890 th as compared with that of corn was again cut. During the ea of 1890 the trust was reorganized as a single corporation, material change was made in its management. About the mi 1891 the Shufeldt Distillery, perhaps the chief rival of the or tion, was purchased, and the price of spirits as compared with corn was pushed considerably higher.

For the next three years there are noticeable very violent tions in the price of spirits as compared with the price of co margin sometimes being very low and sometimes very high. asserted by many interested that the managers were conduct business rather for purposes of speculation on their own part the interests of the stockholders; and this feeling became so and so much evidence was brought forward, that in the earlier 1895, after the margin had been cut to almost nothing, a recei appointed, and the management of the business was taken out hands of the former directors. Whatever the causes may hav been, these violent fluctuations in the price of spirits as co with the price of corn are what might be expected from the asserted.

A little after the middle of 1895 a new corporation was or to take over the larger part of the business of the former co The margin almost immediately increased considerably, alth did not go back to so large an amount as during most of t

from the years 1886 to 1891. There seems to have been another period of depression in 1897, but during the years 1898 and 1899 the price of spirits as compared with that of corn was again high. During the year 1898 various organizations in the spirit business had been formed, which were finally, near the middle of the year 1899, combined in the Distilling Company of America, a very large combination which controls at the present time probably 90 per cent of the output of spirits. This study of the prices of spirits as compared with that of corn seems to show that, in this instance, the combination was able to control prices pretty absolutely for comparatively short periods after the formation of the various combinations, both in the way of increasing prices and the margin, and in the way of cutting the market severely in order to affect competitors. On the whole, however, on account of the combination meeting with so much competition, or on account of the policy of its management, prices instead of being made stable were apparently more than usually unstable, until within the period of the last two years covered by the tables.

BEER.—Material is given for a similar study regarding the effect of the combination in beer, which manufactures a large quantity of this product, and which was organized in August, 1898. Hops, corn, and barley form a large part of the raw material in its manufacture, so that an expert brewer or anyone familiar with the process of manufacture will be able to follow in like manner the changes in prices and in the margin, which would tend to show the profits of brewers and the effect of the combination.

In the table immediately following are given the monthly prices of lager beer per barrel and the prices of the materials entering into the manufacture of beer, namely, hops, corn, and barley. This table is followed by another giving the relative prices of the same articles.

MONTHLY PRICES OF LAGER BEER AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1892 TO 1899.

[The prices for lager beer are from the books of the combination, those for hops from the American Brewers' Review, and those for corn and barley from the Chicago Board of Trade. The combination manufacturing a large quantity of this product was organized in August, 1898.]

Year and month.	Product—lager beer, per barrel. (a)	Materials.				
		Hops, choice New York, per pound.	Hops, prime New York, per pound.	Hops, Washington and Oregon, per pound.	Corn, No. 2, cash, per bushel. (a)	Barley, No. 3, per bushel. (a)
1892.						
July	$5.00	$0.25	$0.23	$0.25	$0.4975	$0.4780
August	5.00	.25	.23	.25	.5181	.5087
September	5.00	.24	(b)	(b)	.4619	.5450
October	5.00	.24	.22	.21	.4257	.5200
November	5.00	.24	.22	.23	.4156	.5275
December	5.00	.24	.22	.22½	.4131	.5300
1893.						
January	5.00	.24	.22	.24½	.4263	.5450
February	5.00	.25	.23	.24½	.4200	.5312
March	5.00	.24½	.21	.21½	.4061	.5200
April	5.00	.23½	.21	.20½	.4075	.5200

a The prices given are the averages of highest and lowest prices for each month.
b Not reported.

MONTHLY PRICES OF LAGER BEER AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1892 TO 1899—Continued.

Year and month.	Product—lager beer, per barrel. (a)	Materials.				
		Hops, choice New York, per pound.	Hops, prime New York, per pound.	Hops, Washington and Oregon, per pound.	Corn, No. 2, cash, per bushel. (a)	Barley, No. 3, per bushel. (a)
1893.						
May	$5.00	$0.23½	$0.21	$0.20½	$0.4200	$0.5100
June	5.00	.23½	.21	.23	.3956	.4087
July	5.00	.23	.21	.20½	.3868	.3733
August	5.00	.23½	.21	.20	.3819	.3413
September	5.00	.23½	.21	.20	.3987	.4490
October	5.00	.24½	.22	.22	.3900	.4675
November	5.00	.22	.21	.23	.3719	.4587
December	5.00	.22	.18	.21	.3538	.4448
1894.						
January	5.00	.23	.20	.23	.3487	.4725
February	5.00	.23	.18	.22	.3456	.4775
March	5.00	.21	.16	.21	.3550	.5180
April	5.00	.21	.16	.21	.3756	.5443
May	5.00	.20	(b)	(b)	.3750	.5350
June	4.00	.18	.15	.20	.3988	.5225
July	4.00	.15	.16	.15	.4306	.4700
August	4.00	.12	.13	.13	.5337	.5150
September	4.00	.12	.10	.12	.5325	.5275
October	4.00	.11	.09	(b)	.5094	.5150
November	4.00	.11	(b)	.11	.5019	.5362
December	4.00	.12	.10	.11	.4631	.5100
1895.						
January	4.00	.11	.10	.11	.4325	.5308
February	4.00	.11	.09	.10	.4200	.5417
March	4.00	.10	.08	.10	.4431	.5238
April	4.00	.10	.07	.09	.4638	.5017
May	4.00	.10	.08½	.09	.5081	.5030
June	4.00	(b)	(b)	(b)	.4987	.5050
July	5.00	.08½	.07	(b)	.4462	.4088
August	5.00	.07	.05	.08	.3969	.3750
September	5.00	.05	.04	.07	.3337	.3506
October	5.00	.10	(b)	.05	.3000	.3187
November	5.50	.10½	.07	.07	.2794	.3160
December	5.50	.10½	.08	.10	.2581	.3000
1896.						
January	5.50	.09	.07	.08	.2688	.3030
February	5.50	.09	.06	.08	.2838	.3131
March	5.50	.09	.06	.07	.2862	.3056
April	5.50	.09	.06	.07	.2962	.3195
May	5.50	.09	.06	.07	.2850	.3180
June	5.50	(b)	(b)	(b)	.2738	.2774
July	5.50	(b)	(b)	(b)	.2594	.2620
August	5.50	(b)	(b)	(b)	.2275	.2743
September	5.50	(b)	(b)	(b)	.2087	.2756
October	5.50	.11	.08	.11	.2312	.3080
November	5.50	.15	.10	.16	.2413	.3093
December	5.50	.14	.10	.14	.2313	.2994
1897.						
January	5.00	.14	.10	.14	.2256	.2940
February	5.00	.13	.10	.14	.2250	.2859
March	5.00	.12	.08	.13	.2375	.2813
April	5.00	.10	.07	.12	.2419	.2925
May	5.00	.10	.06	.12	.2425	.2987
June	5.00	.07	(b)	(b)	.2444	.2988
July	5.00	.09	.06	.12	.2644	.3090
August	5.00	.08	.06	.12	.2937	.3245
September	5.00	.10	.05	.09	.2962	.3813
October	5.00	.18	.07	.12	.2650	.3518
November	5.00	.18	.12	.17	.2669	.3919
December	5.00	.18	.12	.18	.2625	.3555
1898.						
January	6.00	.18	.12	.18	.2713	.3238
February	6.00	.19	.15	.17	.2894	.3387
March	6.00	.18	.14	.16	.2894	.3737
April	6.00	.17	.13	.16	.3206	.4125
May	6.00	.16	.12	.14	.3469	.4675
June	6.00	.14	.10	.13	.3237	.3575
July	6.00	.12	.09	(b)	.3362	.3310

a The prices given are the averages of highest and lowest prices for each month.
b Not reported.

MONTHLY PRICES OF LAGER BEER AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1892 TO 1899—Concluded.

Year and month.	Product—lager beer, per barrel. (a)	Materials.				
		Hops, choice New York, per pound.	Hops, prime New York, per pound.	Hops, Washington and Oregon, per pound.	Corn, No. 2, cash, per bushel. (a)	Barley, No. 3, per bushel. (a)
1898.						
August	$6.00	$0.12	$0.09	$0.10	$0.3175	$0.3687
September	6.00	(b)	.07	.10	.3025	.3660
October	6.00	(b)	(b)	(b)	.3081	.3850
November	6.00	.19	.15	.19	.3306	.4313
December	5.00	.19	.15	.19	.3556	.4520
1899.						
January	5.00	.18	.12	.18	.3668	.4656
February	5.00	.17	.10	.18	.3525	.4581
March	5.00	.17	.12	.18	.3456	.4485
April	5.00	.16	.10	.18	.3462	.4412
May	5.00	.16	.10	.18	.3344	.3912
June	5.00	.16	.12	.18	.3438	.3817
July	5.00	.16	(b)	(b)	.3294	.3910
August	5.00	.15	.11	.18	.3175	.3713
September	5.00	.12	.10	.15	.3313	.4005
October	5.00	.14	.10	.14	.3200	.4162
November	5.00	.13	.10	.13	.3200	.4016
December	5.00	.13	.09	.12	.3075	.3890

RELATIVE MONTHLY PRICES OF LAGER BEER AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1892 TO 1899.

[The combination manufacturing a large quantity of this product was organized in August, 1898.]

Year and month	Product—lager beer.	Materials.				
		Hops, choice New York.	Hops, prime New York.	Hops, Washington and Oregon.	Corn, No. 2, cash.	Barley, No. 3.
1892.						
July	100.0	100.0	100.0	100.0	100.0	100.0
August	100.0	100.0	100.0	100.0	104.1	106.4
September	100.0	96.0	(b)	(b)	92.8	114.0
October	100.0	96.0	95.7	84.0	85.6	108.8
November	100.0	96.0	95.7	92.0	83.5	110.4
December	100.0	96.0	95.7	90.0	83.0	110.9
1893.						
January	100.0	96.0	95.7	98.0	85.7	114.0
February	100.0	100.0	100.0	98.0	84.4	111.1
March	100.0	98.0	91.3	86.0	82.0	108.8
April	100.0	94.0	91.3	82.0	81.9	108.8
May	100.0	94.0	91.3	82.0	84.4	106.7
June	100.0	94.0	91.3	92.0	79.5	85.5
July	100.0	92.0	91.3	82.0	77.7	78.1
August	100.0	94.0	91.3	80.0	76.8	71.4
September	100.0	94.0	91.3	80.0	80.1	93.9
October	100.0	98.0	95.7	88.0	78.4	97.8
November	100.0	88.0	91.3	92.0	74.8	96.0
December	100.0	88.0	78.3	84.0	71.1	93.1
1894.						
January	100.0	92.0	87.0	92.0	70.1	98.8
February	100.0	92.0	78.3	88.0	69.5	99.9
March	100.0	84.0	69.6	84.0	71.4	108.4
April	100.0	84.0	69.6	84.0	75.5	113.9
May	100.0	80.0	(b)	(b)	75.4	111.9
June	80.0	72.0	65.2	80.0	80.2	109.3
July	80.0	60.0	69.6	60.0	86.6	98.8
August	80.0	48.0	56.5	52.0	107.3	107.7
September	80.0	48.0	43.5	48.0	107.0	110.4
October	80.0	44.0	39.1	(b)	102.4	107.7
November	80.0	44.0	(b)	44.0	100.9	112.2
December	80.0	48.0	43.5	44.0	93.1	106.7

a The prices given are the averages of highest and lowest prices for each month.
b Not reported.

RELATIVE MONTHLY PRICES OF LAGER BEER AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1892 TO 1899—Concluded.

Year and month.	Product—lager beer.	Materials.				
		Hops, choice New York.	Hops, prime New York.	Hops, Washington and Oregon.	Corn, No. 2, cash.	Barley, No. 3.
1895.						
January	80.0	44.0	43.5	44.0	86.9	111.0
February	80.0	44.0	39.1	40.0	84.4	113.3
March	80.0	40.0	34.8	40.0	89.1	109.6
April	80.0	40.0	30.4	36.0	93.2	105.0
May	80.0	40.0	37.0	36.0	102.1	105.2
June	80.0	(a)	(a)	(a)	100.2	105.6
July	100.0	34.0	30.4	(a)	89.7	85.5
August	100.0	28.0	21.7	32.0	79.8	78.5
September	100.0	20.0	17.4	28.0	67.1	73.3
October	100.0	40.0	(a)	20.0	60.3	66.7
November	110.0	42.0	30.4	28.0	56.2	66.1
December	110.0	42.0	34.8	40.0	51.9	62.8
1896.						
January	110.0	36.0	30.4	32.0	54.0	63.4
February	110.0	36.0	26.1	32.0	57.0	65.5
March	110.0	36.0	26.1	28.0	57.5	63.9
April	110.0	36.0	26.1	28.0	59.5	66.8
May	110.0	36.0	26.1	28.0	57.3	66.5
June	110.0	(a)	(a)	(a)	55.0	58.0
July	110.0	(a)	(a)	(a)	52.1	54.8
August	110.0	(a)	(a)	(a)	45.7	57.4
September	110.0	(a)	(a)	(a)	41.9	57.7
October	110.0	44.0	34.8	44.0	46.5	64.4
November	110.0	60.0	43.5	64.0	48.5	64.7
December	110.0	56.0	43.5	56.0	46.5	62.6
1897.						
January	100.0	56.0	43.5	56.0	45.3	61.5
February	100.0	52.0	43.5	56.0	45.2	59.8
March	100.0	48.0	34.8	52.0	47.7	58.8
April	100.0	40.0	30.4	48.0	48.6	61.2
May	100.0	40.0	26.1	48.0	48.7	62.5
June	100.0	28.0	(a)	(a)	49.1	62.5
July	100.0	36.0	26.1	48.0	58.1	64.6
August	100.0	32.0	26.1	48.0	59.0	67.9
September	100.0	40.0	21.7	36.0	59.5	79.8
October	100.0	72.0	30.4	48.0	58.3	73.6
November	100.0	72.0	52.2	68.0	53.6	82.0
December	100.0	72.0	52.2	72.0	52.8	74.4
1898.						
January	120.0	72.0	52.2	72.0	54.5	67.7
February	120.0	76.0	65.2	68.0	58.2	70.9
March	120.0	72.0	60.9	64.0	58.2	78.2
April	120.0	68.0	56.5	64.0	64.4	86.3
May	120.0	64.0	52.2	56.0	69.7	97.8
June	120.0	56.0	43.5	52.0	65.1	74.8
July	120.0	48.0	39.1	(a)	67.6	69.2
August	120.0	48.0	39.1	40.0	63.8	77.1
September	120.0	(a)	30.4	40.0	60.8	76.6
October	120.0	(a)	(a)	(a)	61.9	80.5
November	120.0	76.0	65.2	76.0	66.5	90.2
December	100.0	76.0	65.2	76.0	71.5	94.6
1899.						
January	100.0	72.0	52.2	72.0	73.7	97.4
February	100.0	68.0	43.5	72.0	70.9	95.8
March	100.0	68.0	52.2	72.0	69.5	93.8
April	100.0	64.0	43.5	72.0	69.6	92.3
May	100.0	64.0	43.5	72.0	67.2	81.8
June	100.0	64.0	52.2	72.0	69.1	79.9
July	100.0	64.0	(a)	(a)	66.2	81.8
August	100.0	60.0	47.8	72.0	63.8	77.7
September	100.0	48.0	43.5	60.0	66.6	83.8
October	100.0	56.0	43.5	56.0	64.3	87.1
November	100.0	52.0	43.5	52.0	64.3	84.0
December	100.0	52.0	39.1	48.0	61.8	81.4

a Not reported.

TIN PLATES.—In the manufacture of tin plates the best price for quotation is that of Bessemer coke tin plates, 14 by 20, full weight box of 108 pounds. For the manufacture of this full weight box, standard

quality, there are employed 105½ pounds of sheet steel and 2½ pounds of tin. It has not been possible to secure any regular prices for American-made tin plates before the year 1895, but the prices of imported tin plates of similar size and quality are carried back to 1889, and the table shows the prices of imported plates, duty paid. The prices of the sheet steel used in the manufacture of tin plates are not so readily available as the prices of steel billets and slabs, from which the steel sheets are rolled, so that in the tables the steel billets and slabs and the pig tin have been used as the raw material out of which the tin plates, as the finished product, are made. The tables follow, the first showing the prices of the American tin plates per box of 108 pounds and of the materials used in their manufacture (105½ pounds of steel billets and slabs and 2½ pounds of pig tin), and the margin of difference between the product and the materials, which includes both the cost of manufacture and the profit on the same:

MONTHLY PRICES OF AMERICAN TIN PLATES AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1895 TO 1899.

[The prices for tin plates and the prices for pig tin and steel billets and slabs which are used as the basis of the figures given below are from the Report of the Industrial Commission on Trusts and Industrial Combinations, page 868. The combination controlling 95 per cent of this product was organized in 1898.]

Year and month.	Product—tin plates, American Bessemer coke, 14 by 20, at New York, per 108 lbs.	Materials.			Difference.	Year and month.	Product—tin plates, American Bessemer coke, 14 by 20, at New York, per 108 lbs.	Materials.			Difference.
		Pig tin at New York, cost of 2½ lbs.	Steel billets and slabs, cost of 105½ lbs.	Total cost.				Pig tin at New York, cost of 2½ lbs.	Steel billets and slabs, cost of 105½ lbs.	Total cost.	
1895.						1897.					
Jan	$3.70	$0.3400	$0.6999	$1.0399	$2.6601	July	$3.30	$0.3450	(a)	(a)	(a)
Feb	3.75	.3400	.6994	1.0394	2.7106	Aug	3.20	.3450	(a)	(a)	(a)
Mar	3.75	.3450	.7008	1.0458	2.7042	Sept	3.15	.3400	$0.6928	$1.0328	$2.1172
Apr	3.75	.3500	.6952	1.0452	2.7048	Oct	3.15	.3400	.7098	1.0498	2.1002
May	3.70	.3600	.7074	1.0674	2.6326	Nov	3.15	.3400	.6834	1.0234	2.1266
June	3.70	.3550	.7357	1.0907	2.6093	Dec	3.15	.3400	.6509	.9909	2.1591
July	3.80	.3550	.8091	1.1641	2.6359						
Aug	3.75	.3600	.8591	1.2191	2.5309	1898.					
Sept	3.75	.3650	.8821	1.2471	2.5029	Jan	3.15	.3450	.6561	1.0011	2.1489
Oct	3.70	.3675	.9533	1.3208	2.3792	Feb	3.15	.3500	.6603	1.0103	2.1397
Nov	3.67½	.3650	.9443	1.3093	2.3657	Mar	3.15	.3550	.6594	1.0144	2.1356
Dec	3.65	.3450	.9292	1.2742	2.3758	Apr	3.10	.3600	.6613	1.0213	2.0787
						May	3.10	.3675	.6669	1.0344	2.0656
1896.						June	3.10	.3750	.7102	1.0852	2.0148
Jan	3.60	.3300	.9980	1.3280	2.2720	July	3.05	.3850	.6989	1.0839	1.9661
Feb	3.65	.3300	.9038	1.2338	2.4162	Aug	3.00	.3950	.6961	1.0911	1.9089
Mar	3.55	.3350	.8299	1.1649	2.3851	Sept	3.00	.4050	.6942	1.0992	1.9008
Apr	3.55	.3350	.8313	1.1663	2.3837	Oct	2.90	.4250	.7022	1.1272	1.7728
May	3.65	.3350	.8986	1.2336	2.4164	Nov	2.95	.4500	.7112	1.1612	1.7888
June	3.55	.3350	.9471	1.2821	2.2679	Dec	3.10	.4650	.6947	1.1597	1.9403
July	3.60	.3350	.8949	1.2299	2.3701						
Aug	3.60	.3300	(a)	(a)	(a)	1899.					
Sept	3.65	.3250	.9500	1.2750	2.3750	Jan	3.34	.5500	.7314	1.2814	2.0586
Oct	3.55	.3200	.9161	1.2361	2.3139	Feb	3.84	.5750	.7055	1.2805	2.5695
Nov	3.60	.3250	.9057	1.2307	2.3693	Mar	4.21½	.5875	.6886	1.2761	2.9389
Dec	3.45	.3250	.7960	1.1210	2.3290	Apr	4.21½	.6250	.7649	1.3899	2.8251
						May	4.21½	.6350	.7192	1.3542	2.8608
1897.						June	4.21½	.6400	.7107	1.3507	2.8643
Jan	3.40	.3300	.7131	1.0431	2.3569	July	4.71½	.7125	.8091	1.5216	3.1934
Feb	3.30	.3350	.7258	1.0608	2.2392	Aug	5.00	.7750	1.2476	2.0226	2.9774
Mar	3.35	.3300	.7352	1.0652	2.2848	Sept	5.00	.7900	1.2651	2.0551	2.9449
Apr	3.40	.3300	.7352	1.0652	2.3348	Oct	5.00	.7800	1.5717	2.3517	2.6483
May	3.40	.3300	.7371	1.0671	2.3329	Nov	5.00	.7000	1.5255	2.2255	2.7745
June	3.35	.3400	.7281	1.0681	2.2819	Dec	5.00	(a)	(a)	(a)	(a)

a Not reported.

RELATIVE MONTHLY PRICES OF AMERICAN TIN PLATES AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1895 TO 1899.

[The combination controlling 95 per cent of this product was organized in 1898.]

Year and month.	Product—tin plates, American Bessemer coke, 14 by 20, at New York.	Materials.		Year and month.	Product—tin plates, American Bessemer coke, 14 by 20, at New York.	Materials.	
		Pig tin at New York.	Steel billets and slabs.			Pig tin at New York.	Steel billets and slabs.
1895.				1897.			
January	100.0	100.0	100.0	July	89.2	101.5	(a)
February	101.4	100.0	99.9	August	86.5	101.5	(a)
March	101.4	101.5	100.1	September	85.1	100.0	99.0
April	101.4	102.9	99.3	October	85.1	100.0	101.4
May	100.0	105.9	101.1	November	85.1	100.0	97.6
June	100.0	104.4	105.1	December	85.1	100.0	93.0
July	102.7	104.4	115.6	1898.			
August	101.4	105.9	122.7	January	85.1	101.5	93.7
September	101.4	107.4	126.0	February	85.1	102.9	94.3
October	100.0	108.1	136.2	March	85.1	104.4	94.2
November	99.3	107.4	134.9	April	83.8	105.9	94.5
December	98.6	101.5	132.8	May	83.8	108.1	95.3
1896.				June	83.8	110.3	101.5
January	97.3	97.1	142.6	July	82.4	113.2	99.9
February	98.6	97.1	129.1	August	81.1	116.2	99.5
March	95.9	98.5	118.6	September	81.1	119.1	99.2
April	95.9	98.5	118.8	October	78.4	125.0	100.3
May	98.6	98.5	128.4	November	79.7	132.4	101.6
June	95.9	98.5	135.3	December	83.8	136.8	99.3
July	97.3	98.5	127.9	1899.			
August	97.3	97.1	(a)	January	90.3	161.8	104.5
September	98.6	95.6	135.7	February	103.8	169.1	100.8
October	95.9	94.1	130.9	March	113.9	172.8	98.4
November	97.3	95.6	129.4	April	113.9	183.8	109.3
December	93.2	95.6	113.7	May	113.9	186.8	102.8
1897.				June	113.9	188.2	101.5
January	91.9	97.1	101.9	July	127.4	209.6	115.6
February	89.2	98.5	103.7	August	135.1	227.9	178.3
March	90.5	97.1	105.0	September	135.1	232.4	180.8
April	91.9	97.1	105.0	October	135.1	229.4	224.6
May	91.9	97.1	105.3	November	135.1	205.9	218.0
June	90.5	100.0	104.0	December	135.1	(a)	(a)

a Not reported.

MONTHLY PRICES OF IMPORTED TIN PLATES, 1889 TO 1899.

[The prices shown are from the Report of the Industrial Commission on Trusts and Industrial Combinations, page 869.]

Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.	Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.	Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.
1889.		1890.		1892.	
January	$4.21¼	July	$4.48	January	$4.85
February	4.20⅛	August	4.73½	February	4.85
March	4.22	September	5.15½	March	4.85
April	4.28	October	5.40	April	4.85
May	4.27½	November	5.40	May	4.85
June	4.25	December	5.10⅛	June	4.85
July	4.25	1891.		July	4.82½
August	4.25⅛	January	5.32	August	4.80
September	4.32	February	5.42	September	4.80
October	4.51½	March	5.30	October	4.85
November	4.73	April	5.20	November	5.00
December	4.62	May	5.25⅛	December	5.00
1890.		June	5.39	1893.	
January	4.66	July	5.37	January	5.35
February	4.47⅛	August	5.46⅛	February	5.32½
March	4.44	September	5.36	March	5.30
April	4.37½	October	5.31	April	5.27½
May	4.35½	November	5.28⅛	May	5.25
June	4.41½	December	5.28	June	5.20

MONTHLY PRICES OF IMPORTED TIN PLATES, 1889 TO 1899—Concluded.

Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.	Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.	Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.
1893.		1895.		1897.	
July	$5.17½	September	$3.75	November	$3.72
August	5.15	October	3.70	December	3.72
September	5.15	November	3.67½		
October	5.12½	December	3.65	1898.	
November	5.10			January	4.05
December	5.10	1896.		February	4.05
		January	3.60	March	3.99
1894.		February	3.57½	April	4.05
January	5.05	March	3.50	May	4.10
February	5.00	April	3.50	June	4.10
March	4.95	May	3.50	July	4.10
April	4.95	June	3.50	August	4.16
May	4.92½	July	3.47½	September	4.16
June	4.92½	August	3.47½	October	4.10
July	4.92½	September	3.47½	November	4.16
August	4.92½	October	3.45	December	4.22
September	4.90	November	3.45		
October	4.00	December	3.40	1899.	
November	3.90			January	4.22
December	3.80	1897.		February	4.40
		January	3.84	March	4.34
1895.		February	3.84	April	4.34
January	3.70	March	3.78	May	4.57
February	3.62½	April	3.78	June	4.76
March	3.60	May	3.78	July	5.05
April	3.60	June	3.75	August	5.58
May	3.62½	July	3.72	September	5.40
June	3.67½	August	3.72	October	5.31
July	3.75	September	3.72	November	5.31
August	3.75	October	3.72	December	5.34

If one calculates the cost of 105½ pounds of steel plus that of 2½ pounds of pig tin and subtracts this from the price of a box of American tin plates, standard size, one will arrive at the margin which will show the cost of manufacture plus the profits of the manufacturers.

Somewhat after the middle of the year 1895 there was a lowering in this margin, due, as will be seen from the tables, mainly to an increase in the prices of both steel and pig tin, with no corresponding increase in the price of tin plates. This margin, it will be noticed, decreased through the year 1897 and the greater part of 1898, the decrease being due chiefly to the lessening price of the product, the prices of the raw materials, with sundry variations, remaining on the whole substantially uniform. In the latter part of 1898 and at the beginning of 1899 the margin again rapidly increased. The price of tin plates increased from $2.90 per box in October, 1898, to $3.84 in February, 1899; $4.21½ in the months following; $4.71½ in July, and $5 during the latter part of the year. While pig tin increased also very rapidly in value, that forms a relatively small part of the cost of tin plates, and there was no corresponding increase in the price of steel until July and August, 1899, when the price of steel also began to increase very rapidly. The consequence of these changes was that during the earlier part of 1899 the margin went back to as high a point as during the

year 1896. The study of the tables shows that the organizatic combination among the tin-plate manufacturers, which, for being at least, controlled some 95 per cent of the product, was by a decided increase in the margin. The American Tin Plate C was organized in December, 1898, and for some little tim there had been negotiations among the tin-plate manufacturer the completion of the organization was expected. While d the chief cause for the very great increase in the price of tin to be found in the increase in the raw materials, as well as an also in wages, which has been shown elsewhere to be over 35 on the average, the increase in the margin has been so great t probable that the profit has increased since the organization combination.

If one notices somewhat carefully the tables from, say, Sep 1898, through the year 1899, the difference can be seen betw increase in the margin and the increase in relative prices. Duri period the relative price of the chief raw material, steel, in over 118 points. The price of pig tin increased over 86 points the price of the finished product increased only 54 points. On be led carelessly, therefore, to assume that the profits of the facturers had lessened, but the study of the marginal figures wil that the margin had on the whole very decidedly increased b those dates—almost 46 per cent—and, with the margin, doubtl profits of the manufacturers increased also.

The prices of imported tin plates show very decided chan August, 1890. This change, it is alleged, was due to the tariff increased the duty on tin plates from 1 cent a pound to 2.2 cents though the tariff did not take effect until July 1, 1891, the ef the price of tin plates was felt immediately as soon as it was that the tariff was to become a law. The lowering of the duty from 2.2 to 1.2 cents in the latter part of August, 1894, is sho the drop which took place in October and the succeeding m The increase of the tariff again from 1.2 cents to 1.5 cents per taking effect in July, 1897, was felt some 6 months before, in Ja when the price increased by some 40 cents a box.

IRON AND STEEL.—In the short tables which follow are giv relative monthly prices of a number of iron and steel products their principal materials.

RELATIVE MONTHLY PRICES OF BAR IRON AND THE MATERIALS ENTERING INTO ITS MANUFACTURE AT CHICAGO, 1889 TO 1899.

[The relative prices shown in this table are based on actual monthly prices shown in Tables II, IV, and VI. The combination controlling a large portion of this product was organized in May, 1899.]

Year and month.	Product—bar iron, common.	Materials.		
		Pig iron, foundry, No. 2, local.	Scrap, No. 1, mill.	Coke, Pennsylvania.
1889.				
Jan	100.0	100.0	100.0	100.0
Feb	98.5	91.8	100.0	100.0
Mar	95.6	93.3	100.0	100.0
Apr	94.1	94.0	96.4	100.0
May	91.2	91.8	92.9	97.6
June	91.2	90.3	92.9	94.1
July	94.1	91.8	100.0	92.9
Aug	97.1	91.8	101.8	92.9
Sept	100.0	91.8	103.6	103.5
Oct	102.9	97.0	114.3	103.5
Nov	108.8	98.5	121.4	107.1
Dec	113.2	106.6	125.0	112.9
1890.				
Jan	114.7	117.0	117.9	116.5
Feb	111.8	109.6	117.9	125.9
Mar	105.9	102.2	110.7	122.4
Apr	102.9	99.2	103.6	122.4
May	100.0	96.3	100.0	122.4
June	105.9	96.3	110.7	122.4
July	105.9	97.7	114.3	122.4
Aug	108.8	97.7	117.9	122.4
Sept	111.8	97.7	117.9	122.4
Oct	108.8	94.8	114.3	122.4
Nov	105.9	92.5	110.7	122.4
Dec	104.4	90.3	103.6	122.4
1891.				
Jan	100.0	87.4	100.0	118.8
Feb	101.5	90.3	98.2	118.8
Mar	100.0	90.3	98.2	118.8
Apr	97.1	92.5	96.4	118.8
May	97.1	91.8	96.4	118.8
June	98.5	90.3	98.2	118.8
July	98.5	89.6	101.8	118.8
Aug	98.5	89.6	103.6	118.8
Sept	102.9	89.6	101.8	118.8
Oct	102.9	89.6	98.2	118.8
Nov	98.5	88.2	94.6	118.8
Dec	100.0	87.4	89.3	118.8
1892.				
Jan	97.1	85.9	89.3	118.8
Feb	98.5	85.1	89.3	118.8
Mar	95.6	82.9	82.1	118.8
Apr	92.6	82.9	78.6	118.8
May	89.7	82.9	75.0	118.8
June	91.2	82.9	71.4	118.8
July	95.6	82.9	78.6	118.8
Aug	97.1	81.5	78.6	118.8
Sept	97.1	80.0	78.6	118.8
Oct	95.6	80.0	78.6	118.8
Nov	95.6	80.0	78.6	118.8
Dec	95.6	80.0	78.6	118.8
1893.				
Jan	92.6	79.2	76.8	118.8
Feb	91.2	75.9	76.8	118.8
Mar	92.6	77.0	76.8	118.8
Apr	89.7	77.0	75.0	118.8
May	88.2	76.8	71.4	118.8
June	86.8	77.0	64.3	118.8
July	86.8	75.8	64.3	118.8
Aug	85.3	75.5	60.7	118.8
Sept	86.8	75.5	57.1	105.9
Oct	85.3	75.5	57.1	105.9
Nov	82.4	75.5	57.1	98.8
Dec	79.4	69.3	57.1	98.8
1894.				
Jan	73.5	74.1	58.9	98.8
Feb	70.6	70.3	48.2	98.8
Mar	67.6	66.9	48.2	98.8
Apr	64.7	62.2	46.4	91.8
May	61.8	62.2	46.4	91.8
June	61.8	62.2	46.4	91.8
July	64.7	60.0	46.4	91.8
Aug	64.7	59.2	46.4	91.8
Sept	61.8	59.2	50.0	91.8
Oct	58.8	59.2	50.0	91.8
Nov	61.8	57.5	50.0	91.8
Dec	61.8	57.8	50.0	91.8
1895.				
Jan	61.8	57.8	46.4	91.8
Feb	58.8	57.8	46.4	91.8
Mar	58.8	58.1	46.4	91.8
Apr	64.7	60.7	46.4	97.6
May	64.7	60.7	50.0	97.6
June	70.6	64.5	53.6	97.6
July	76.5	71.9	57.1	97.6
Aug	82.4	78.2	64.3	97.6
Sept	88.2	80.7	71.4	97.6
Oct	88.2	82.9	64.3	109.4
Nov	88.2	82.9	57.1	114.1
Dec	82.4	82.9	53.6	114.1
1896.				
Jan	76.5	74.3	46.4	121.2
Feb	79.4	74.1	50.0	121.2
Mar	76.5	71.1	53.6	121.2
Apr	76.5	71.1	55.4	112.9
May	76.5	69.3	53.6	112.9
June	76.5	68.1	50.0	112.9
July	76.5	66.6	48.2	107.1
Aug	76.5	66.2	46.4	107.1
Sept	76.5	63.7	42.9	107.1
Oct	76.5	64.5	46.4	107.1
Nov	67.6	66.3	53.6	107.1
Dec	73.5	66.6	53.6	107.1
1897.				
Jan	73.5	65.3	50.0	107.1
Feb	73.5	65.2	50.0	107.1
Mar	66.2	64.5	50.0	107.1
Apr	61.8	63.7	48.2	107.1
May	61.8	61.5	42.9	107.1
June	58.8	60.7	39.3	107.1
July	63.2	60.7	41.1	107.1
Aug	64.7	60.7	41.1	107.1
Sept	64.7	61.6	46.4	107.1
Oct	67.6	65.2	50.0	107.1
Nov	64.7	65.2	46.4	107.1
Dec	64.7	65.2	46.4	107.1
1898.				
Jan	61.8	65.2	46.4	107.1
Feb	61.8	64.8	48.2	107.1
Mar	61.8	63.7	50.0	103.5
Apr	63.2	64.6	50.0	103.5
May	64.7	65.2	46.4	103.5
June	66.2	65.2	46.4	103.5
July	60.3	65.2	46.4	103.5
Aug	61.8	65.2	46.4	103.5
Sept	61.8	65.2	47.3	103.5
Oct	61.8	65.2	48.2	105.9
Nov	60.3	65.2	44.6	103.5
Dec	61.8	65.2	48.2	103.5
1899.				
Jan	61.8	65.9	50.0	107.1
Feb	67.6	71.8	55 4	107.1
Mar	85.3	86.5	62.5	107.1
Apr	92.6	89.6	64.3	107.1
May	95.6	91.1	64.3	107.1
June	105.9	104.3	62.5	107.1
July	108.8	115.5	60.7	111.8
Aug	117.6	121.4	64.3	111.8
Sept	132.4	136.3	92.9	123.5
Oct	135.3	136.3	103.6	123.4
Nov	135.3	139.2	96.4	123.4
Dec	135.3	139.2	92.9	135.8

RELATIVE MONTHLY PRICES OF BARBED WIRE AND NAILS AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1889 TO 1899.

[The relative prices shown in this table are based on actual monthly prices shown in Tables II, IV, and VI. The combination controlling all the barbed wire, 65 to 95 per cent of the wire nails, and 75 to 95 per cent of the steel rods and smooth wire was organized in January, 1899.]

Year and month.	Products.			Materials.		Year and month.	Products.			Materials.	
	Barbed wire at Chicago.	Cut steel nails at Chicago.	Wire nails at Chicago.	Steel billets at Pittsburg.	Coke, Pennsylvania, at Chicago.		Barbed wire at Chicago.	Cut steel nails at Chicago.	Wire nails at Chicago.	Steel billets at Pittsburg.	Coke, Pennsylvania, at Chicago.
1889.						1894.					
Jan	100.0	100.0	100.0	100.0	100.0	July	80.4	51.3	47.1	64.0	91.8
Feb	98.2	102.6	94.1	98.9	100.0	Aug	80.4	48.7	45.1	61.0	91.8
Mar	96.4	100.0	92.2	96.9	100.0	Sept	78.6	48.7	43.1	61.1	91.8
Apr	96.4	100.0	92.2	96.0	100.0	Oct	76.8	46.2	41.2	56.9	91.8
May	94.6	97.4	90.2	95.7	97.6	Nov	71.4	46.2	41.2	55.4	91.8
June	94.6	94.9	90.2	94.7	94.1	Dec	69.6	46.2	39.2	53.8	91.8
July	94.6	94.9	90.2	96.4	92.9	1895.					
Aug	94.6	94.9	88.2	100.9	92.9	Jan	67.9	48.7	37.3	53.0	91.8
Sept	98.2	102.6	92.2	104.6	103.5	Feb	67.9	48.7	37.3	53.2	91.8
Oct	108.9	123.1	100.0	119.8	103.5	Mar	69.6	46.2	39.2	52.8	91.8
Nov	112.5	123.1	123.5	120.9	107.1	Apr	67.9	46.2	37.3	54.9	97.6
Dec	116.1	129.5	117.6	126.2	112.9	May	69.6	47.4	43.1	58.0	97.6
1890.						June	75.0	64.1	58.8	66.3	97.6
Jan	116.1	128.2	113.7	130.3	116.5	July	76.8	87.2	76.5	73.8	97.6
Feb	119.6	123.1	115.7	125.4	125.9	Aug	91.1	100.0	86.3	77.3	97.6
Mar	117.9	117.9	107.8	111.6	122.4	Sept	101.8	110.3	94.1	85.3	97.6
Apr	112.5	107.7	94.1	100.9	122.4	Oct	101.8	110.3	94.1	77.9	109.4
May	103.6	94.9	90.2	98.0	122.4	Nov	101.8	111.5	94.9	68.0	114.1
June	101.8	100.0	94.1	107.6	122.4	Dec	71.4	111.5	94.9	60.3	114.1
July	101.8	102.6	94.1	109.2	122.4	1896.					
Aug	101.8	102.6	98.0	107.6	122.4	Jan	72.3	111.3	94.9	59.7	121.2
Sept	101.8	100.0	100.0	107.1	122.4	Feb	70.5	111.3	94.9	61.8	121.2
Oct	101.8	100.0	94.1	102.8	122.4	Mar	69.6	119.0	100.8	60.8	121.2
Nov	98.2	94.9	90.2	97.3	122.4	Apr	73.2	117.9	100.0	69.5	112.9
Dec	96.4	89.7	88.2	93.3	122.4	May	76.8	125.6	105.9	69.3	112.9
1891.						June	71.4	125.6	105.9	68.0	112.9
Jan	96.4	89.7	87.1	91.0	118.8	July	71.4	125.6	105.9	67.0	107.1
Feb	96.4	89.7	89.0	92.5	118.8	Aug	67.9	125.6	105.9	66.7	107.1
Mar	101.8	92.3	87.1	93.3	118.8	Sept	66.1	125.6	105.9	70.2	107.1
Apr	101.8	89.7	83.1	90.1	118.8	Oct	66.1	125.6	105.9	70.2	107.1
May	100.9	87.2	80.4	90.7	118.8	Nov	66.1	125.6	105.9	71.1	107.1
June	98.2	87.2	79.2	89.8	118.8	Dec	69.6	76.9	62.7	62.2	107.1
July	96.4	84.6	81.2	90.7	118.8	1897.					
Aug	99.1	87.2	79.2	90.0	118.8	Jan	67.9	76.9	57.6	54.8	107.1
Sept	100.0	87.2	78.4	88.9	118.8	Feb	66.1	76.9	56.9	54.2	107.1
Oct	91.1	84.6	74.5	88.5	118.8	Mar	67.9	74.4	58.8	54.9	107.1
Nov	91.1	84.6	72.5	85.9	118.8	Apr	64.3	71.8	57.6	51.9	107.1
Dec	91.1	84.6	70.6	86.1	118.8	May	64.3	69.2	56.1	49.1	107.1
1892.						June	62.5	66.7	55.3	50.0	107.1
Jan	92.9	83.3	71.4	88.9	118.8	July	62.5	69.2	52.9	49.8	107.1
Feb	87.5	83.3	73.3	86.6	118.8	Aug	58.9	71.8	53.3	49.8	107.1
Mar	85.7	83.3	72.5	81.8	118.8	Sept	64.3	71.8	58.4	55.5	107.1
Apr	82.1	82.1	68.6	81.1	118.8	Oct	64.3	79.5	60.4	58.5	107.1
May	82.1	82.1	66.7	79.7	118.8	Nov	64.3	74.4	58.4	55.4	107.1
June	82.1	83.3	61.6	81.7	118.8	Dec	64.3	74.4	58.4	53.3	107.1
July	82.1	82.1	66.7	83.6	118.8	1898.					
Aug	78.6	83.3	66.7	84.7	118.8	Jan	67.9	74.4	60.8	53.1	107.1
Sept	78.6	83.3	65.5	84.1	118.8	Feb	67.9	74.4	61.6	53.6	107.1
Oct	76.8	83.3	61.6	83.7	118.8	Mar	67.9	75.6	60.8	54.2	103.5
Nov	76.8	82.1	62.7	88.7	118.8	Apr	67.0	70.5	57.6	53.6	103.5
Dec	75.0	82.1	62.7	79.7	118.8	May	64.3	69.2	56.9	52.8	103.5
1893.						June	64.3	69.2	56.1	52.1	103.5
Jan	85.7	82.1	61.6	76.7	118.8	July	64.3	69.2	53.3	51.6	103.5
Feb	85.7	82.1	60.8	76.9	118.8	Aug	64.3	69.2	53.3	56.4	103.5
Mar	87.5	73.1	64.7	80.4	118.8	Sept	64.3	69.2	56.1	56.9	103.5
Apr	87.5	69.2	64.7	79.8	118.8	Oct	65.2	69.2	57.3	55.3	105.9
May	87.5	67.9	62.7	77.1	118.8	Nov	65.2	69.2	54.5	53.6	103.5
June	87.5	64.1	58.8	77.2	118.8	Dec	65.2	69.2	53.7	56.2	103.5
July	87.5	62.8	57.6	74.9	118.8	1899.					
Aug	87.5	62.8	57.6	72.7	118.8	Jan	73.2	71.8	62.4	59.1	107.1
Sept	83.9	62.8	57.6	68.7	105.9	Feb	80.4	71.8	67.8	64.0	107.1
Oct	80.4	62.8	54.9	64.2	105.9	Mar	93.8	84.6	82.0	86.4	107.1
Nov	76.8	61.5	51.0	61.8	98.8	Apr	100.0	94.9	88.2	90.2	107.1
Dec	75.0	60.3	49.8	59.4	98.8	May	105.4	97.4	92.2	95.1	107.1
1894.						June	114.3	102.6	100.8	107.0	107.1
Jan	80.4	59.0	45.9	57.3	98.8	July	117.9	117.9	105.9	117.8	111.8
Feb	80.4	53.8	47.1	56.0	98.8	Aug	121.4	120.5	109.8	126.7	111.8
Mar	82.1	52.6	45.1	55.3	98.8	Sept	131.3	130.8	120.0	136.5	123.5
Apr	78.6	51.3	39.2	55.8	91.8	Oct	134.8	138.5	124.3	120.0	129.4
May	76.8	48.7	42.0	64.0	91.8	Nov	138.6	143.6	128.6	129.8	129.4
June	78.6	48.7	47.1	64.4	91.8	Dec	147.5	143.6	128.6	137.8	135.3

The monthly prices of black merchant pipe and its principal raw material, skelp, and the relative monthly prices of black merchant pipe and the various materials entering into the manufacture of the product are given in the tables which follow:

MONTHLY PRICES OF BLACK MERCHANT PIPE AND SKELP (ITS PRINCIPAL RAW MATERIAL), 1879 TO 1899. (a)

[The prices are taken from the books of the combination. The combination controlling 90 per cent of this product was organized in May, 1899.]

Year and month.	Black merchant pipe, ½ in. to 8 in., per ton.	Skelp (plates), per ton.	Year and month.	Black merchant pipe, ½ in. to 8 in., per ton.	Skelp (plates), per ton.	Year and month.	Black merchant pipe, ½ in. to 8 in., per ton.	Skelp (plates), per ton.
1879.			1885.			1889.		
Mar	$40.40	(b)	Jan	$50.60	$36.98	Mar	$50.60	$34.18
Dec	123.00	(b)	Feb	49.40	36.91	Apr	51.20	33.76
1881.			Mar	48.80	36.02	May	49.40	32.18
Jan	70.50	$46.27	Apr	47.40	35.13	June	52.20	33.81
Feb	68.67	46.30	May	47.80	37.54	July	55.20	33.81
Mar	66.05	46.50	June	49.40	36.17	Aug	55.80	34.28
Apr	65.02	46.65	July	51.40	37.00	Sept	56.20	34.89
May	63.20	46.80	Aug	53.40	38.09	Oct	57.20	35.58
June	63.20	46.75	Sept	53.00	38.00	Nov	63.40	36.83
July	66.80	46.11	Oct	52.60	37.90	Dec	64.20	37.14
Aug	74.80	49.53	Nov	54.40	38.73			
Sept	80.40	53.01	Dec	52.60	38.46	1890.		
Oct	84.00	53.79				Jan	66.40	38.11
Nov	89.40	55.86	1886.			Feb	61.20	36.69
Dec	95.40	58.48	Jan	57.80	38.68	Mar	61.80	37.29
			Feb	55.60	38.66	Apr	63.60	37.95
1882.			Mar	56.40	38.86	May	63.20	37.47
Jan	91.80	59.61	Apr	57.40	39.39	June	62.00	36.49
Feb	87.00	60.44	May	56.40	38.67	July	61.40	36.41
Mar	87.40	59.90	June	61.20	38.71	Aug	61.20	37.78
Apr	86.40	57.69	July	65.20	39.13	Sept	61.60	38.02
May	76.20	54.11	Aug	63.80	39.29	Oct	63.20	38.41
June	82.80	52.95	Sept	59.20	38.85	Nov	61.80	38.10
July	90.00	56.00	Oct	61.60	38.86	Dec	62.60	37.88
Aug	98.20	60.53	Nov	64.00	40.89			
Sept	89.00	58.00	Dec	59.20	40.29	1891.		
Oct	85.60	56.27				Jan	61.60	37.33
Nov	79.20	51.48	1887.			Feb	61.00	36.23
Dec	77.80	47.74	Jan	61.60	44.23	Mar	62.00	37.22
			Feb	65.20	44.97	Apr	59.40	35.53
1883.			Mar	65.40	45.71	May	56.00	34.64
Jan	70.20	45.69	Apr	65.80	44.91	June	55.40	34.23
Feb	68.40	44.51	May	72.40	44.93	July	53.20	33.59
Mar	67.00	44.63	June	68.50	44.30	Aug	53.60	33.28
Apr	65.20	43.88	July	67.60	43.74	Sept	54.40	33.80
May	63.40	43.43	Aug	64.20	43.45	Oct	54.00	34.35
June	61.07	42.66	Sept	59.80	43.05	Nov	55.00	34.80
July	60.10	41.78	Oct	59.00	42.09	Dec	52.40	33.51
Aug	58.80	42.71	Nov	58.00	41.68			
Sept	59.40	41.95	Dec	57.20	40.77	1892.		
Oct	59.60	41.77				Jan	50.40	32.98
Nov	57.80	41.18	1888.			Feb	49.40	32.32
Dec	61.20	40.76	Jan	56.20	40.37	Mar	48.60	32.01
			Feb	60.40	39.77	Apr	47.80	31.36
1884.			Mar	53.00	37.27	May	47.40	31.37
Jan	71.40	39.74	Apr	52.60	37.22	June	48.20	31.91
Feb	66.00	40.43	May	52.10	38.62	July	47.00	32.12
Mar	64.60	38.54	June	48.20	36.48	Aug	47.80	33.20
Apr	68.60	39.15	July	47.40	35.67	Sept	48.20	33.06
May	67.40	38.82	Aug	46.80	36.40	Oct	50.00	32.72
June	68.00	37.39	Sept	48.20	37.50	Nov	50.20	32.52
July	67.00	37.61	Oct	49.40	38.22	Dec	51.80	34.24
Aug	63.80	36.30	Nov	52.20	38.52			
Sept	56.00	37.86	Dec	54.20	37.32	1893		
Oct	51.60	38.31				Jan	50.40	32.78
Nov	52.60	38.04	1889.			Feb	49.20	32.9⅜
Dec	53.56	36.94	Jan	54.60	36.76	Mar	48.80	32.1¼
			Feb	50.20	35.53	Apr	48.00	31.7½

a The lowest price in 1879 occurred in March, from which it advanced to the price of December. Owing to the accumulation of scrap in the world's market, a break occurred in 1880, for which year, however, exact prices were not obtainable. It will be seen that the advance in 1879, when there was no combination, was greater than in 1899 under the combination. The company ascribes the advance in each instance to the natural increase in prices, and request the prices for the whole period to be shown.

b Not reported.

MONTHLY PRICES OF BLACK MERCHANT PIPE AND SKELP (ITS PRINCIPAL RAW MATERIAL), 1879 TO 1899—Concluded.

Year and month.	Black merchant pipe, ½ in. to 8 in., per ton.	Skelp (plates), per ton.	Year and month.	Black merchant pipe, ½ in. to 8 in., per ton.	Skelp (plates), per ton.	Year and month.	Black merchant pipe, ½ in. to 8 in., per ton.	Skelp (plates), per ton.
1893.			1895.			1897.		
May	$46.40	$32.00	Aug	$45.20	$28.75	Nov	$35.62	$20.91
June	47.40	32.00	Sept	47.80	30.67	Dec	36.09	19.62
July	51.20	32.16	Oct	48.10	29.95			
Aug	50.60	32.80	Nov	48.00	28.07	1898.		
Sept	46.40	30.52	Dec	48.50	28.17	Jan	35.10	19.77
Oct	47.20	30.27				Feb	33.75	19.87
Nov	47.00	29.59	1896.			Mar	33.90	19.70
Dec	46.50	27.55	Jan	41.00	26.02	Apr	27.97	19.86
			Feb	41.20	26.32	May	27.92	19.29
1894.			Mar	39.40	25.27	June	27.62	19.24
Jan	43.40	25.67	Apr	39.80	27.08	July	28.37	19.24
Feb	41.40	25.07	May	38.60	26.61	Aug	28.64	19.33
Mar	39.20	23.55	June	37.40	26.45	Sept	31.46	20.71
Apr	37.70	23.30	July	39.40	27.03	Oct	32.44	20.81
May	37.60	26.05	Aug	37.93	27.64	Nov	33.42	20.33
June	37.60	25.00	Sept	33.73	25.34	Dec	33.83	20.22
July	37.60	24.59	Oct	35.35	24.58			
Aug	39.00	24.50	Nov	34.74	23.67	1899.		
Sept	38.00	24.12	Dec	34.82	22.57	Jan	35.43	20.62
Oct	38.80	22.00				Feb	32.62	21.91
Nov	35.60	22.05	1897.			Mar	32.12	25.59
Dec	35.20	21.99	Jan	35.70	20.99	Apr	34.94	30.13
			Feb	36.09	21.18	May	36.13	33.92
1895.			Mar	33.80	19.57	June	40.48	37.88
Jan	36.20	22.19	Apr	32.54	19.43	July	47.84	42.65
Feb	34.50	22.43	May	32.21	18.92	Aug	64.07	46.00
Mar	36.80	22.40	June	32.26	18.83	Sept	66.80	44.22
Apr	36.60	21.84	July	33.58	18.83	Oct	77.09	45.82
May	35.40	22.58	Aug	33.67	18.93	Nov	79.76	42.82
June	36.40	25.61	Sept	34.98	19.82	Dec	81.65	37.29
July	39.00	27.95	Oct	35.58	21.63			

RELATIVE MONTHLY PRICES OF BLACK MERCHANT PIPE AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1889 TO 1899.

[The relative prices shown for steel billets and coke are based on actual monthly prices shown in Tables II and VI. The combination controlling 90 per cent of this product was organized in May, 1899.]

Year and month.	Product—black merchant pipe, ½ in. to 8 in.	Materials.			Year and month.	Product—black merchant pipe, ½ in. to 8 in.	Materials.		
		Skelp (plates).	Steel billets at Pittsburg.	Coke, Connellsville, f. o. b. at ovens.			Skelp (plates).	Steel billets at Pittsburg.	Coke, Connellsville, f. o. b. at ovens.
1889.					1891.				
Jan	100.0	100.0	100.0	100.0	Jan	112.8	101.6	91.0	152.0
Feb	91.9	96.7	98.9	100.0	Feb	111.7	98.6	92.5	152.0
Mar	92.7	93.0	96.9	100.0	Mar	113.6	101.3	93.3	152.0
Apr	93.8	91.8	96.0	92.0	Apr	108.8	96.7	90.1	152.0
May	90.5	87.5	95.7	88.0	May	102.6	94.2	90.7	152.0
June	95.6	92.0	94.7	88.0	June	101.5	93.1	89.8	152.0
July	101.1	92.0	96.4	84.0	July	97.4	91.4	90.7	152.0
Aug	102.2	93.3	100.9	88.0	Aug	98.2	90.5	90.0	152.0
Sept	102.9	94.9	104.6	110.0	Sept	99.6	91.9	88.9	148.0
Oct	104.8	96.8	119.8	120.0	Oct	98.9	93.4	88.5	148.0
Nov	116.1	100.2	120.9	140.0	Nov	100.7	93.3	85.9	144.0
Dec	117.6	101.0	126.2	140.0	Dec	96.0	91.2	86.1	144.0
1890.					1892.				
Jan	121.6	103.7	130.3	140.0	Jan	92.3	89.7	88.9	152.0
Feb	112.1	99.8	125.4	140.0	Feb	90.5	87.9	86.6	152.0
Mar	113.2	101.4	111.6	172.0	Mar	89.0	87.1	81.8	152.0
Apr	116.5	103.2	100.9	172.0	Apr	87.5	85.3	81.1	152.0
May	115.8	101.9	98.0	172.0	May	86.8	85.3	79.7	144.0
June	113.6	99.3	107.6	172.0	June	88.3	86.8	81.7	144.0
July	112.5	99.0	109.2	172.0	July	86.1	87.4	83.6	140.0
Aug	112.1	102.8	107.6	172.0	Aug	87.5	90.3	84.7	140.0
Sept	112.8	103.4	107.1	172.0	Sept	88.3	89.9	84.1	140.0
Oct	115.8	104.5	102.8	172.0	Oct	91.6	89.0	83.7	140.0
Nov	113.2	103.6	97.3	172.0	Nov	91.9	88.5	83.7	140.0
Dec	114.7	103.0	93.3	172.0	Dec	94.9	93.1	79.7	140.0

RELATIVE MONTHLY PRICES OF BLACK MERCHANT PIPE AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1889 TO 1899—Concluded.

Year and month.	Product—black merchant pipe, ½ in. to 8 in.	Materials.			Year and month.	Product—black merchant pipe, ½ in. to 8 in.	Materials.		
		Skelp (plates).	Steel billets at Pittsburg.	Coke, Connellsville, f. o. b. at ovens.			Skelp (plates).	Steel billets at Pittsburg.	Coke, Connellsville, f. o. b. at ovens.
1893.					1896.				
Jan.....	92.3	89.2	76.7	152.0	July....	72.2	73.5	67.0	150.0
Feb.....	90.1	87.9	76.9	152.0	Aug....	69.5	75.2	66.7	150.0
Mar	89.4	87.4	80.4	152.0	Sept....	61.8	68.9	70.2	150.0
Apr.....	87.9	86.3	79.8	136.0	Oct.....	64.7	66.9	70.2	150.0
May	85.0	87.1	77.1	128.0	Nov....	63.6	64.4	71.1	150.0
June....	86.8	87.1	77.2	120.0	Dec	63.8	61.4	62.2	150.0
July	93.8	87.5	74.9	116.0					
Aug	92.7	89.2	72.7	100.0	1897.				
Sept	85.0	83.0	68.7	96.0	Jan	65.4	57.1	54.8	150.0
Oct.....	86.4	82.3	64.2	96 0	Feb	66.1	57.6	54.2	150.0
Nov	86.1	80.5	61.8	88.0	Mar	61.9	53.2	54.9	130.0
Dec.....	85.2	74.9	59.4	84.0	Apr	59.6	52.9	51.9	124.0
					May....	59.0	51.5	49.1	112.0
1894.					June...	59.1	51.2	50.0	120.0
Jan.....	79.5	69.8	57.3	78.0	July....	61.5	51.2	49.8	120.0
Feb.....	75.8	68.2	56.0	76.0	Aug....	61.7	51.5	49.8	120.0
Mar	71.8	64.1	55.3	80.0	Sept....	64.1	53.9	55.5	116.0
Apr.....	69.0	63.4	55.8	73.6	Oct.....	65.2	58.8	58.5	130.0
May	68.9	70.9	64.0	73.6	Nov....	65.2	56.9	55.4	140.0
June....	68.9	68.0	64.4	80.0	Dec	66.1	53.4	53.3	140.0
July	68.9	66.9	64.0	80.0					
Aug	71.4	66.6	61.0	160.0	1898.				
Sept	69.6	65.6	61.1	112.0	Jan	64.3	53.8	53.1	140.0
Oct.....	71.1	59.8	56.9	80.0	Feb	61.8	54.1	53.6	140.0
Nov	65.2	60.0	55.4	80.8	Mar	62.1	53.6	54.2	140.0
Dec.....	64.5	59.8	53.8	80.0	Apr	51.2	54.0	53.6	140.0
					May....	51.1	52.5	52.8	140.0
1895.					June...	50.6	52.3	52.1	140.0
Jan.....	66.3	60.4	53.0	80.0	July....	52.0	52.3	51.6	140.0
Feb.....	63.2	61.0	53.2	80.0	Aug....	52.5	52.6	56.4	140.0
Mar	67.4	60.9	52.8	80.0	Sept....	57.6	56.3	56.9	140.0
Apr.....	67.0	59.4	54.9	108.0	Oct.....	59.4	56.6	55.3	120.0
May	64.8	61.4	58.0	108.0	Nov....	61.2	55.3	53.6	120.0
June....	66.7	69.7	66.3	108.0	Dec	62.0	55.0	56.2	128.0
July	71.4	76.0	73.8	108.0					
Aug	82.8	78.2	77.3	108.0	1899.				
Sept	87.5	83.4	85.3	108.0	Jan	64.9	56.1	59.1	128.0
Oct.....	88.1	81.5	77.9	128.0	Feb	59.7	59.6	64.0	128.0
Nov	87.9	76.4	68.0	128.0	Mar	58.8	69.6	86.4	140.0
Dec.....	88.8	76.6	60.3	128.0	Apr	64.0	82.0	90.2	140.0
					May....	66.2	92.3	95.1	164.0
1896.					June...	74.1	103.0	107.0	176.0
Jan.....	75.1	70.8	59.7	150.0	July....	87.6	116.0	117.8	170.0
Feb.....	75.5	71.6	61.8	150.0	Aug....	117.3	125.1	126.7	200.0
Mar	72.2	68.7	60.8	150.0	Sept....	122.3	120.3	136.5	210.0
Apr.....	72.9	73.7	69.5	150.0	Oct.....	141.2	124.6	120.0	220.0
May	70.7	72.4	69.3	150.0	Nov....	146.1	116.5	129.8	230.0
June....	68.5	72.0	68.0	150.0	Dec	149.5	101.4	137.8	230.0

The process of manufacture of iron and steel is, on the whole, so complicated that it would require special information to interpret accurately the effects of the combinations as shown by a study of the prices. In one or two instances, however, certain specific effects can be seen without difficulty. It will be noticed that during the latter half of the year 1895, and during most of the year 1896, there was a very decided increase in the prices of wire nails and of cut nails as compared with that of steel billets or of finished steel of other kinds. Especially is this true during the year 1896. Although there was an increase during part of this time in the price of steel billets, and also in the price of various kinds of wire, the very high price of nails during the latter part of 1896 does not correspond with these other changes,

but remained very high when the price of steel billets and of o products had begun to fall. There can be no doubt that thi in the price of wire nails was due to the wire-nail pool, w formed in 1895, and which finally went to pieces in the latte 1896.

During the year 1899 there was again a very decided in the prices of all steel products, both raw materials, such as lets, and finished products, such as nails, barbed wire, and smo A study of the prices of some of these products, where the r rial is so directly connected with the finished product that the little question of complications entering into the methods of m ture, will show that during the middle of the year 1899 the the finished product increased more than proportionately to th raw materials. One of the chief causes of the increase in p iron and steel has been the enormous demand, and this should b in mind in any study of these prices. Certain combinations o in the latter part of 1898 and in the earlier part of 1899 control proportion of the products—wire nails, barbed wire, and one other smaller products—the proportion amounting in some inst more than 90 per cent. It would appear here that the combi while not being the chief factor in the increase of the price product, that being rather the increase in the price of the ra rials, and the fact that the demand for all iron and steel prod been in excess of the supply, has, nevertheless, been able advantage of the circumstances so as to increase the price of ished product more than proportionally to that of the raw m thus increasing the margin and the consequent profits to the c tion. The time, of course, has been altogether too short to de what these effects of consolidation may be in the long run, bu as the tables go they seem to show that temporarily, at any rat of these combinations have been enabled to take advantage of cumstances and to increase considerably their profits.

TOBACCO.—The tables showing the prices of tobacco of variou both finished product and raw material, do not go back bey period of the organization of the American Tobacco Company i It is, in consequence, impossible to compare prices before an A study of the tables shows that the price of cheroots and ci has decreased more rapidly than has the price of the raw m As to smoking tobacco it is seen that an increase in price is for both the finished product and the raw material, the price raw material having increased more rapidly than has the price finished product.

MONTHLY PRICES OF ONE LEADING BRAND EACH OF CHEROOTS, CIGARETTES, AND SMOKING TOBACCO, AND THE MATERIAL ENTERING INTO THE MANUFACTURE OF EACH, AND THE INTERNAL REVENUE TAX, 1890 TO 1899.

[The prices shown are from the books of the combination. The combination controlling the greater proportion of these products was organized in 1890.]

Year and month.	Cheroots.			Cigarettes.			Smoking tobacco.		
	Product—less internal-revenue tax, per 1,000.	Material—leaf tobacco, per pound.	Internal-revenue tax per 1,000.	Product—less internal-revenue tax, per 1,000.	Material—leaf tobacco, per pound.	Internal-revenue tax per 1,000.	Product—less internal-revenue tax, per pound.	Material—leaf tobacco, per pound.	Internal-revenue tax per pound.
1890.									
Jan	$9.50	(a)	$3.00	$3.00	(a)	$0.50	$0.16	(a)	$0.08
Feb	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Mar	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Apr	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
May	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
June	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
July	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Aug	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Sept	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Oct	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	b.06
Nov	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Dec	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
1891.									
Jan	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Feb	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Mar	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Apr	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
May	9.25	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
June	9.25	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
July	9.25	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Aug	9.25	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Sept	9.25	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Oct	9.25	(a)	3.00	2.70	(a)	.50	.18	(a)	.06
Nov	9.25	(a)	3.00	2.70	(a)	.50	.18	(a)	.06
Dec	9.25	(a)	3.00	2.70	(a)	.50	.18	(a)	.06
1892.									
Jan	9.25	(a)	3.00	2.70	(a)	.50	.18	(a)	.06
Feb	9.25	(a)	3.00	3.30	(a)	.50	.18	(a)	.06
Mar	9.25	(a)	3.00	3.30	(a)	.50	.18	(a)	.06
Apr	9.25	(a)	3.00	3.30	(a)	.50	.18	(a)	.06
May	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
June	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
July	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
Aug	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
Sept	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
Oct	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
Nov	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
Dec	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
1893.									
Jan	9.25	$0.1610	3.00	2.95	(a)	.50	.19	(a)	.06
Feb	9.25	.1833	3.00	2.95	(a)	.50	.19	(a)	.06
Mar	9.25	.1527	3.00	2.95	(a)	.50	.19	(a)	.06
Apr	9.25	.1661	3.00	2.95	(a)	.50	.19	(a)	.06
May	9.25	.1572	3.00	2.95	(a)	.50	.19	(a)	.06
June	9.25	.1496	3.00	2.95	(a)	.50	.19	(a)	.06
July	9.25	.1405	3.00	2.95	(a)	.50	.19	(a)	.06
Aug	9.25	.1444	3.00	2.95	(a)	.50	.19	(a)	.06
Sept	9.25	.1516	3.00	2.95	(a)	.50	.19	(a)	.06
Oct	9.25	.1367	3.00	2.95	(a)	.50	.19	(a)	.06
Nov	9.25	.1477	3.00	2.95	(a)	.50	.19	(a)	.06
Dec	9.25	.1339	3.00	2.95	c$0.1028	.50	.19	c$0.0292	.06
1894.									
Jan	9.25	.1472	3.00	2.95	(a)	.50	.19	(a)	.06
Feb	9.25	.1483	3.00	2.95	(a)	.50	.19	(a)	.06
Mar	9.25	.1538	3.00	2.95	(a)	.50	.19	(a)	.06
Apr	9.25	.1532	3.00	2.95	(a)	.50	.19	(a)	.06
May	9.25	.1549	3.00	2.95	(a)	.50	.19	(a)	.06
June	9.25	.1554	3.00	2.95	(a)	.50	.19	(a)	.06
July	9.25	.1578	3.00	2.95	(a)	.50	.19	(a)	.06
Aug	9.25	.1572	3.00	2.95	(a)	.50	.19	(a)	.06
Sept	9.25	.1640	3.00	2.95	(a)	.50	.19	(a)	.06
Oct	9.25	.1572	3.00	2.95	(a)	.50	.19	(a)	.06
Nov	9.25	.1572	3.00	2.95	(a)	.50	.19	(a)	.06
Dec	9.25	.1677	3.00	2.92	c.1141	.50	.19	c.0318	.06

a Not reported.
b Decreased by act of Congress of October 1, 1890.
c Average for the year; monthly prices not reported.

MONTHLY PRICES OF ONE LEADING BRAND EACH OF CHEROOTS, CIGARETTES, SMOKING TOBACCO, AND THE MATERIAL ENTERING INTO THE MANUFACTUR EACH, AND THE INTERNAL REVENUE TAX, 1890 TO 1899—Concluded.

Year and month.	Cheroots.			Cigarettes.			Smoking tobacc		
	Product—less internal-revenue tax, per 1,000.	Material—leaf tobacco, per pound.	Internal-revenue tax per 1,000.	Product—less internal-revenue tax, per 1,000.	Material—leaf tobacco, per pound.	Internal-revenue tax per 1,000.	Product—less internal-revenue tax, per pound.	Material—leaf tobacco, per pound.	In re ta p
1895.									
Jan.....	$9.25	$0.1499	$3.00	$2.95	(a)	$0.50	$0.19	(a)	
Feb.....	9.25	.1477	3.00	2.95	(a)	.50	.19	(a)	
Mar	9.25	.1428	3.00	2.95	(a)	.50	.19	(a)	
Apr.....	9.25	.1422	3.00	2.95	(a)	.50	.19	(a)	
May	9.25	.1405	3.00	2.95	(a)	.50	.19	(a)	
June....	9.25	.1462	3.00	2.95	(a)	.50	.19	(a)	
July	9.25	.1355	3.00	2.95	(a)	.50	.19	(a)	
Aug	9.25	.1483	3.00	2.95	(a)	.50	.19	(a)	
Sept....	9.25	.1549	3.00	2.95	$0.1185	.50	.19	$0.0320	
Oct.....	9.25	.1543	3.00	2.92	.1237	.50	.19	.0333	
Nov	9.25	.1594	3.00	2.92	.1219	.50	.19	.0336	
Dec.....	9.25	.1672	3.00	2.92	.1223	.50	.19	.0336	
1896.									
Jan.....	9.25	.1617	3.00	2.92	.1218	.50	.19	.0335	
Feb.....	9.25	.1384	3.00	2.92	.1220	.50	.19	.0337	
Mar	9.25	.1344	3.00	2.92	.1209	.50	.19	.0339	
Apr.....	9.25	.1322	3.00	2.92	.1187	.50	.19	.0338	
May	9.25	.1317	3.00	2.92	.1110	.50	.19	.0335	
June ...	9.25	.1305	3.00	2.92	.1087	.50	.19	.0335	
July	9.25	.1311	3.00	2.92	.1091	.50	.19	.0334	
Aug	9.25	.1272	3.00	2.92	.1090	.50	.19	.0334	
Sept....	9.25	.1250	3.00	2.92	.1042	.50	.19	.0307	
Oct.....	9.25	.1277	3.00	2.92	.1043	.50	.19	.0311	
Nov	9.25	.1250	3.00	2.92	.1065	.50	.19	.0311	
Dec.....	9.25	.1766	3.00	2.92	.1075	.50	.19	.0312	
1897.									
Jan.....	9.25	.1328	3.00	2.92	.1089	.50	.20	.0313	
Feb.....	9.25	.1384	3.00	2.92	.1083	.50	.20	.0316	
Mar	9.25	.1317	3.00	2.92	.1077	.50	.20	.0317	
Apr.....	9.25	.1211	3.00	3.30	.1071	.50	.20	.0317	
May	9.12½	.1206	3.00	2.92	.1053	.50	.20	.0318	
June ...	9.00	.1211	3.00	2.92	.1058	.50	.20	.0317	
July	9.00	.1200	3.00	2.96	.1057	b.50	.20	.0317	
Aug	9.00	.1177	3.00	2.71	.1015	1.00	.20	.0317	
Sept....	9.00	.1239	3.00	2.42	.1034	1.00	.20	.0352	
Oct.....	9.00	.1222	3.00	2.42	.1052	1.00	.20	.0386	
Nov	9.00	.1228	3.00	2.42	.1058	1.00	.20	.0414	
Dec.....	9.00	.1272	3.00	2.50	.1063	1.00	.20	.0425	
1898.									
Jan.....	9.00	.1339	3.00	2.70	.1064	1.00	.20	.0431	
Feb.....	9.00	.1288	3.00	2.70	.1063	1.00	.20	.0438	
Mar	9.00	.1299	3.00	2.70	.1063	1.00	.20	.0448	
Apr.....	9.00	.1322	3.00	2.70	.1062	1.00	.20	.0459	
May	9.00	.1328	3.00	2.70	.1061	1.00	.20	.0466	
June ...	8.32½	.1333	c3.00	2.45	.1061	c1.00	.20	.0470	
July	7.65	.1305	3.60	2.20	.1062	1.50	.22	.0473	
Aug	7.65	.1333	3.60	2.20	.1061	1.50	.22	.0472	
Sept....	7.65	.1378	3.60	2.20	.1055	1.50	.22	.0508	
Oct.....	7.65	.1395	3.60	2.20	.1043	1.50	.22	.0502	
Nov	7.65	.1488	3.60	2.20	.1040	1.50	.22	.0498	
Dec.....	7.65	.1538	3.60	2.20	.1047	1.50	.22	.0498	
1899.									
Jan.....	7.65	.1428	3.60	2.20	.1051	1.50	.22	.0498	
Feb.....	7.65	.1417	3.60	2.20	.1052	1.50	.22	.0498	
Mar	7.65	.1217	3.60	2.20	.1053	1.50	.22	.0496	
Apr.....	7.65	.1367	3.60	2.20	.1053	1.50	.22	.0495	
May	7.65	.1244	3.60	2.20	.1053	1.50	.22	.0495	
June ...	7.65	.1177	3.60	2.20	.1054	1.50	.22	.0495	
July	7.65	.1200	3.60	2.20	.1054	1.50	.23	.0496	
Aug	7.65	.1317	3.60	2.20	.1054	1.50	.23	.0496	
Sept....	7.65	.1277	3.60	2.20	.1026	1.50	.23	.0532	
Oct.....	7.65	.1350	3.60	2.20	.1032	1.50	.23	.0536	
Nov	7.65	.1362	3.60	2.20	.1023	1.50	.23	.0542	
Dec.....	7.65	.1516	3.60	2.20	.1024	1.50	.23	.0544	

a Not reported.
b Increased by act of Congress of July 24, 1897.
c Increased by act of Congress of June

MONTHLY PRICES OF LOOSE TOBACCO AT DANVILLE, VA., 1890 TO 1899.

Year and month.	Price per pound.	Year and month.	Price per pound.	Year and month.	Price per pound.
1890.		1893.		1896.	
January	$0.1359	May	$0.0792	September	$0.0751
February	.1390	June	.0751	October	.0711
March	.1260	July	.0712	November	.0696
April	.1408	August	.0659	December	.0629
May	.1497	September	.0729		
June	.1589	October	.0719	1897.	
July	.1507	November	.0721	January	.0668
August	.1201	December	.0636	February	.0663
September	.1098			March	.0654
October	.1162	1894.		April	.0644
November	.1056	January	.0635	May	.0635
December	.1001	February	.0638	June	.0645
		March	.0629	July	.0648
1891.		April	.0677	August	.0626
January	.1205	May	.0600	September	.0765
February	.1162	June	.0714	October	.0748
March	.1188	July	.0607	November	.0672
April	.1159	August	.0580	December	.0747
May	.1368	September	.0725		
June	.1235	October	.0815	1898.	
July	.1304	November	.0794	January	.0854
August	.1184	December	.0698	February	.0872
September	.1103			March	.0762
October	.1068	1895.		April	.0751
November	.0983	January	.0765	May	.0829
December	.0798	February	.0947	June	.0887
		March	.0782	July	.0834
1892.		April	.0769	August	.0779
January	.0890	May	.0737	September	.0802
February	.0978	June	.0871	October	.0599
March	.0868	July	.0826	November	.0613½
April	.0833	August	.0782	December	.0645½
May	.0855	September	.0970		
June	.0909	October	.1019	1899.	
July	.0864	November	.0821	January	.0700½
August	.0892	December	.0828	February	.0681
September	.0890			March	.0679
October	.0866	1896.		April	.0719
November	.0740	January	.0905	May	.0704½
December	.0796	February	.0827	June	.0718½
		March	.0805	July	.0640
1893.		April	.0709	August	.0661
January	.1018	May	.0676	September	.0685
February	.0903	June	.0676	October	.0614
March	.0862	July	.0621	November	.0650
April	.0862	August	.0675	December	.0640

PRODUCTS OF GRAIN AND FLOUR.—The following tables sho products from grain of various kinds and from flour are to preted in detail only by those who have been familiar with and manufacturing conditions in those lines, and with the con the trade for a period of years. For persons thus familiar conditions, the material is very complete.

MONTHLY PRICES OF CRACKERS AND THE MATERIALS ENTERING INTO TH FACTURE, 1891 TO 1899.

[The prices shown for soda crackers, XXX, and ginger snaps, XXX, are from the Chic Criterion and those for soda crackers, standard, are from the books of the combinatio for flour and lard are from the Chicago Board of Trade. The combination controllin of these products was organized in February, 1898.]

Year and month.	Products.			Materials.		
	Soda crackers, XXX, per pound.	Soda crackers, standard, per pound.	Ginger snaps, XXX, per pound.	Flour, spring wheat, patent process, per barrel. (a)	Flour, good spring supers, low grade, per barrel. (a)	Flour mediu to choi winte wheat per ba rel. (a
1891.						
January	$0.06	$0.06¼	$0.08½	$4.68	$2.30	$4.4
February	.06	.06¼	.08½	4.75	2.35	4.4
March	.06	.06¼	.08½	4.83	2.35	4.4
April	.06	.06¼	.08½	5.12	2.54	4.6
May	.06	.06¼	.08½	5.33	2.65	4.8
June	.06	.06¼	.08½	5.04	2.65	4.6
July	.06	.06¼	.08½	4.92	2.63	4.3
August	.06	.06¼	.08½	5.11	2.75	4.3
September	.06	.06¼	.08½	5.06	2.91	4.4
October	.06	.06¼	.08½	4.85	2.80	4.3
November	.06¼	.06¼	.08½	4.80	2.73	4.3
December	.06¼	.06¼	.08½	4.71	2.65	4.3
1892.						
January	.06	.06	.08½	4.58	2.42	4.2
February	.06	.06	.08½	4.46	1.98	4.2
March	.06	.06	.08½	4.46	1.96	4.2
April	.06	.06	.08½	4.27	1.95	4.0
May	.06	.06	.08½	4.35	1.95	4.0
June	.06	.06	.08½	4.37	1.92	4.0
July	.06	.06	.08½	4.30	1.81	3.8
August	.06	.06	.08½	4.25	1.75	3.6
September	.06	.06	.08½	4.18	1.76	3.5
October	.06	.06	.08½	4.04	1.72	3.3
November	.06	.05	.08½	3.94	1.69	3.3
December	.06	.05	.08½	3.92	1.55	3.3
1893.						
January	.06	.05	.08½	3.93	1.48	3.3
February	.06	.05	.08½	3.92	1.47	3.3
March	.06	.05	.08½	3.92	1.58	3.2
April	.06	.05	.08½	3.85	1.50	3.2
May	.06	.05	.08½	3.94	1.48	3.1
June	.06	.06	.08½	3.79	1.50	3.0
July	.06	.06	.08½	3.75	1.55	2.9
August	.06	.06	.08½	3.75	1.55	2.9
September	.06	.06	.08½	3.75	1.55	2.9
October	.06	.06	.08½	3.73	1.55	2.9
November	.06	.06	.08½	3.62	1.55	2.9
December	.06	.06	.08½	3.49	1.55	2.9
1894.						
January	.06	.06	.08½	3.53	1.55	2.8
February	.06	.06	.08½	3.44	1.52	2.7
March	.06	.06	.08½	3.40	1.53	2.5
April	.06	.06	.08½	3.36	1.50	2.5
May	.06	.06	.08½	3.32	1.53	2.5
June	.06	.06	.08½	3.34	1.55	2.5
July	.06	.06	.08½	3.35	1.55	2.5
August	.06	.06	.08½	3.35	1.64	2.4
September	.06	.06	.08½	3.35	1.69	2.3
October	.05½	.06	.08	3.25	1.75	2.3
November	.05½	.05½	.08	3.28	1.75	2.3
December	.05½	.05½	.08	3.35	1.75	2.4

a The prices given are the averages of highest and lowest prices for each mont

MONTHLY PRICES OF CRACKERS AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1891 TO 1899—Concluded.

Year and month.	Products.			Materials.			
	Soda crackers, XXX, per pound.	Soda crackers, standard, per pound.	Ginger snaps, XXX, per pound.	Flour, spring wheat, patent process, per barrel. (a)	Flour, good spring supers, low grade, per barrel. (a)	Flour, medium to choice winter wheat, per barrel. (a)	Lard, steam refined, per 100 pounds.
1895.							
January	$0.04½	$0.05	$0.07	$3.30	$1.75	$2.42	$6.68
February	.04½	.05	.07	3.26	1.75	2.37	6.45
March	.04½	.05	.07	3.30	1.75	2.47	6.67
April	.04½	.05	.07	3.38	1.76	2.60	6.81
May	.05½	.05½	.07½	3.72	1.96	3.20	6.62
June	.05½	.05½	.08	4.11	2.13	3.65	6.50
July	.05½	.05½	.08	4.02	1.94	3.31	6.37
August	.05½	.05½	.08	3.68	1.88	3.25	6.00
September	.05½	.05½	.08	3.45	1.82	3.05	5.85
October	.05½	.05½	.08	3.32	1.79	3.04	5.86
November	.05½	.05½	.08	3.24	1.66	3.05	5.46
December	.05½	.05½	.08	3.13	1.54	3.07	5.28
1896.							
January	.05½	.05½	.08	3.19	1.50	3.13	5.52
February	.05½	.05½	.08	3.24	1.50	3.17	5.52
March	.05½	.05½	.08	3.26	1.50	3.27	5.26
April	.05½	.05½	.08	3.44	1.50	3.37	4.98
May	.05½	.05½	.08	3.51	1.48	3.34	4.52
June	.05½	.05½	.08	3.57	1.48	3.10	4.06
July	.05½	.05½	.08	3.41	1.46	3.02	3.59
August	.05½	.05½	.08	3.20	1.35	3.00	3.23
September	.05½	.05½	.08	3.42	1.36	3.12	3.40
October	.05½	.05½	.08	4.01	1.47	3.48	4.18
November	.05½	.05½	.08	4.50	1.60	4.10	3.99
December	.06	.06	.08	4.47	1.78	4.40	4.30
1897.							
January	.06	.06	.08	4.27	1.70	4.32	3.90
February	.05½	.05½	.07	4.13	1.57	4.15	3.85
March	.05½	.05½	.07	4.05	1.48	4.10	4.13
April	.05½	.05½	.07	3.98	1.47	4.09	4.17
May	.05½	.05½	.07	4.09	1.47	4.44	3.92
June	.05½	.05½	.07	3.85	1.44	4.05	3.60
July	.05½	.05½	.07	3.93	1.44	3.96	4.05
August	.05½	.05½	.07	4.65	1.74	4.33	4.47
September	.05½	.05½	.07	5.28	2.00	4.78	4.61
October	.05½	.05½	.07	4.89	1.96	4.68	4.37
November	.05½	.05½	.07	4.75	1.78	4.44	4.23
December	.06	.06	.08	4.61	1.75	4.30	4.33
1898.							
January	.06½	.06½	.08	4.59	1.67	4.33	4.72
February	.06½	.06½	.08½	4.84	1.77	4.45	5.02
March	.06½	.06½	.08	4.89	1.95	4.40	5.19
April	.06½	.06½	.08	5.12	2.04	4.49	5.28
May	.07	.07	.08	6.66	2.56	6.15	6.23
June	.07½	.07	.08½	5.19	2.12	4.90	5.87
July	.06½	.06½	.07½	4.48	1.62	3.96	5.46
August	.06½	.06½	.07½	4.17	1.52	3.36	5.20
September	.06½	.06½	.07½	3.53	1.50	3.11	4.91
October	.06½	.06	.07½	3.49	1.55	3.14	4.89
November	.06	.06	.07½	3.48	1.65	3.15	4.93
December	.06	.06	.07½	3.37	1.65	3.20	5.20
1899.							
January	.06	.06	.07½	3.46	1.68	3.40	5.59
February	.06	.06	.07½	3.55	1.65	3.50	5.54
March	.06	.06	.07½	3.47	1.52	3.30	5.28
April	.06	.06	.07½	3.45	1.48	3.19	5.21
May	.06	.06	.07½	3.52	1.50	3.22	5.09
June	.06	.06	.07½	3.60	1.58	3.30	4.98
July	.06	.06	.07½	3.52	1.57	3.22	5.24
August	.06	.06	.07½	3.50	1.52	3.16	5.19
September	.06	.06	.07½	3.55	1.53	3.21	5.21
October	.06½	.06	.07½	3.55	1.62	3.29	5.41
November	.06½	.06	.07½	3.42	1.60	3.20	5.08
December	.06½	.06	.07½	3.38	1.52	3.10	5.26

a The prices given are the averages of highest and lowest prices for each month.

RELATIVE MONTHLY PRICES OF CRACKERS AND THE MATERIALS ENTERING THEIR MANUFACTURE, 1891 TO 1899.

[The combination controlling 60 per cent of these products was organized in February,

Year and month.	Products.			Materials.		
	Soda crackers, XXX.	Soda crackers, standard.	Ginger snaps, XXX.	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.
1891.						
January	100.0	100.0	100.0	100.0	100.0	100.0
February	100.0	100.0	100.0	101.5	102.2	101.4
March	100.0	100.0	100.0	103.2	102.2	100.9
April	100.0	100.0	100.0	109.4	110.4	105.9
May	100.0	100.0	100.0	113.9	115.2	110.0
June	100.0	100.0	100.0	107.7	115.2	106.1
July	100.0	100.0	100.0	105.1	114.3	99.3
August	100.0	100.0	100.0	109.2	119.6	97.7
September	100.0	100.0	100.0	108.1	126.5	99.8
October	100.0	100.0	100.0	103.6	121.7	99.3
November	108.3	100.0	100.0	102.6	118.7	99.1
December	108.3	100.0	100.0	100.6	115.2	98.4
1892.						
January	100.0	92.3	100.0	97.9	105.2	97.1
February	100.0	92.3	100.0	95.3	86.1	96.8
March	100.0	92.3	100.0	95.3	85.2	96.6
April	100.0	92.3	100.0	91.2	84.8	92.5
May	100.0	92.3	100.0	92.9	84.8	92.3
June	100.0	92.3	100.0	93.4	83.5	92.3
July	100.0	92.3	100.0	91.9	78.7	88.2
August	100.0	92.3	100.0	90.8	76.1	82.1
September	100.0	92.3	100.0	89.3	76.5	80.0
October	100.0	92.3	100.0	86.3	74.8	76.9
November	100.0	76.9	100.0	84.2	73.5	74.8
December	100.0	76.9	100.0	83.8	67.4	74.8
1893.						
January	100.0	76.9	100.0	84.0	64.3	75.5
February	100.0	76.9	100.0	83.8	63.9	75.5
March	100.0	76.9	100.0	83.8	68.7	74.4
April	100.0	76.9	100.0	82.3	65.2	73.7
May	100.0	76.9	100.0	84.2	64.3	71.4
June	100.0	92.3	100.0	81.0	65.2	69.8
July	100.0	92.3	100.0	80.1	67.4	67.1
August	100.0	92.3	100.0	80.1	67.4	65.8
September	100.0	92.3	100.0	80.1	67.4	66.9
October	100.0	92.3	100.0	79.7	67.4	66.9
November	100.0	92.3	100.0	77.4	67.4	65.8
December	100.0	92.3	100.0	74.6	67.4	65.8
1894.						
January	100.0	92.3	100.0	75.4	67.4	65.1
February	100.0	92.3	100.0	73.5	66.1	62.4
March	100.0	92.3	100.0	72.6	66.5	58.0
April	100.0	92.3	100.0	71.8	65.2	58.7
May	100.0	92.3	100.0	70.9	66.5	58.0
June	100.0	92.3	100.0	71.4	67.4	56.7
July	100.0	92.3	100.0	71.6	67.4	56.7
August	100.0	92.3	100.0	71.6	71.3	55.3
September	100.0	92.3	100.0	71.6	73.5	54.2
October	91.7	92.3	94.1	69.4	76.1	53.7
November	91.7	84.6	94.1	70.1	76.1	54.0
December	91.7	84.6	94.1	71.6	76.1	54.9
1895.						
January	75.0	76.9	82.4	70.5	76.1	54.9
February	75.0	76.9	82.4	69.7	76.1	53.7
March	75.0	76.9	82.4	70.5	76.1	56.0
April	75.0	76.9	82.4	72.2	76.5	59.0
May	91.7	84.6	88.2	79.5	85.2	72.6
June	91.7	84.6	94.1	87.8	92.6	82.8
July	91.7	84.6	94.1	85.9	84.3	75.1
August	91.7	84.6	94.1	78.6	81.7	73.7
September	91.7	84.6	94.1	73.7	79.1	69.2
October	91.7	84.6	94.1	70.9	77.8	68.9
November	91.7	84.6	94.1	69.2	72.2	69.2
December	91.7	84.6	94.1	66.9	67.0	69.6

RELATIVE MONTHLY PRICES OF CRACKERS AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1891 TO 1899—Concluded.

Year and month.	Products.			Materials.			
	Soda crackers, XXX.	Soda crackers, standard.	Ginger snaps, XXX.	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.	Lard, steam refined.
1896.							
January	91.7	84.6	94.1	68.2	65.2	71.0	95.3
February	91.7	84.6	94.1	69.2	65.2	71.9	95.3
March	91.7	84.6	94.1	69.7	65.2	74.1	90.8
April	91.7	84.6	94.1	73.5	65.2	76.4	86.0
May	91.7	84.6	94.1	75.0	64.3	75.7	78.1
June	91.7	84.6	94.1	76.3	64.3	70.3	70.1
July	91.7	84.6	94.1	72.9	63.5	68.5	62.0
August	91.7	84.6	94.1	68.4	58.7	68.0	55.8
September	91.7	84.6	94.1	73.1	59.1	70.7	58.7
October	91.7	84.6	94.1	85.7	63.9	78.9	72.2
November	91.7	84.6	94.1	96.2	69.6	93.0	68.9
December	100.0	92.3	94.1	95.5	77.4	99.8	74.3
1897.							
January	100.0	92.3	94.1	91.2	73.9	98.0	67.4
February	91.7	84.6	82.4	88.2	68.3	94.1	66.5
March	91.7	84.6	82.4	86.5	64.3	93.0	71.3
April	91.7	84.6	82.4	85.0	63.9	92.7	72.0
May	91.7	84.6	82.4	87.4	63.9	100.7	67.7
June	91.7	84.6	82.4	82.3	62.6	91.8	62.2
July	91.7	84.6	82.4	84.0	62.6	89.8	69.9
August	91.7	84.6	82.4	99.4	75.7	98.2	77.2
September	91.7	84.6	82.4	112.8	87.0	108.4	79.6
October	91.7	84.6	82.4	104.5	85.2	106.1	75.5
November	91.7	84.6	82.4	101.5	77.4	100.7	73.1
December	100.0	92.3	94.1	98.5	76.1	97.5	74.8
1898.							
January	108.3	100.0	94.1	98.1	72.6	98.2	81.5
February	108.3	100.0	100.0	103.4	77.0	100.9	86.7
March	108.3	100.0	94.1	104.5	84.8	99.8	89.6
April	108.3	100.0	94.1	109.4	88.7	101.8	91.2
May	116.7	107.7	94.1	142.3	111.3	139.5	107.6
June	125.0	107.7	100.0	110.9	92.2	111.1	101.4
July	108.3	100.0	88.2	95.7	70.4	89.8	94.3
August	108.3	96.2	88.2	89.1	66.1	76.2	89.8
September	104.2	96.2	88.2	75.4	65.2	70.5	84.8
October	104.2	92.3	88.2	74.6	67.4	71.2	84.5
November	100.0	92.3	88.2	74.4	71.7	71.4	85.1
December	100.0	92.3	88.2	72.0	71.7	72.6	89.8
1899.							
January	100.0	92.3	88.2	73.9	73.0	77.1	96.5
February	100.0	92.3	88.2	75.9	71.7	79.4	96.7
March	100.0	92.3	88.2	74.1	66.1	74.8	91.2
April	100.0	92.3	88.2	73.7	64.3	72.3	90.0
May	100.0	92.3	88.2	75.2	65.2	73.0	87.9
June	100.0	92.3	88.2	76.3	68.7	74.8	86.0
July	100.0	92.3	88.2	75.2	68.3	73.0	90.5
August	100.0	92.3	88.2	74.2	66.1	71.7	89.6
September	100.0	92.3	88.2	75.9	65.5	72.8	90.0
October	108.3	92.3	88.2	75.9	70.4	74.6	93.4
November	108.3	92.3	88.2	73.1	69.6	72.6	87.7
December	108.3	92.3	88.2	72.2	66.1	70.3	90.8

MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERI
THEIR MANUFACTURE, 1882 TO 1899.

[The prices shown are from the Chicago Board of Trade. The combination manufacturin
quantity of these products was organized in June, 1891.]

Year and month.	Products.			Material—	Product—	M
	Flour, spring wheat, patent process, per barrel. (a)	Flour, good spring supers, low grade, per barrel. (a)	Flour, medium to choice winter wheat, per barrel. (a)	wheat, No. 2, cash (b), per bush. (a)	rye flour, good to choice, per barrel. (a)	
1882.						
January	$7.88	$4.13	$6.88	$1.30⅜	$5.62½	
February	7.87	4.12	6.87	1.24⅝	5.48	
March	7.68	4.03	6.59	1.29	5.13½	
April	7.95	4.00	6.58	1.37	4.93	
May	8.25	4.00	6.75	1.30½	4.81	
June	8.25	4.00	6.66	1.30½	4.50	
July	8.17	4.00	6.43	1.31	4.25	
August	7.75	3.59	6.00	1.03	4.15½	
September	7.35	3.38	5.38	1.02⅛	3.92½	
October	6.88	3.25	5.00	.94 5/12	3.75½	
November	6.75	3.25	5.00	.93⅝	3.72½	
December	6.42	3.25	5.00	.92 5/12	3.72½	
1883.						
January	6.59	3.00	5.21	.98½	3.76½	
February	6.72	3.00	5.47	1.07⅜	3.82½	
March	6.78	3.00	5.50	1.06⅛	3.75	
April	6.94	3.00	5.50	1.05 1/12	3.63½	
May	7.00	3.13	5.59	1.11	3.51	
June	6.90	3.02	5.53	1.06½	3.48	
July	6.63	2.88	5.50	.99⅜	3.23	
August	6.50	2.87	5.41	1.01⅜	3.18½	
September	6.50	2.88	5.39	.95 5/16	3.22½	
October	6.50	2.87	5.38	.92 7/16	3.20	
November	6.47	2.88	5.39	.95½	3.20	
December	6.13	2.87	5.28	.97 1/12	3.25½	
1884.						
January	6.01	2.75	5.52	.91⅛	3.19½	
February	5.88	2.62	5.55	.93⅜	3.17	
March	5.87	2.63	5.68	.86⅜	3.15	
April	5.90	2.50	5.52	.85	3.15	
May	6.00	2.50	5.73	.90	3.32½	
June	5.90	2.50	5.49	.86⅞	3.40	
July	5.72	2.50	5.29	.81 9/16	3.35½	
August	5.50	2.50	4.84	.79 7/12	3.27½	
September	5.00	2.38	4.28	.76 1/12	3.20	
October	5.00	2.25	4.23	.72⅜	3.19	
November	4.75	2.13	3.83	.72 5/16	3.11	
December	4.25	2.12	3.75	.72 1/12	3.06½	
1885.						
January	4.76	2.20	4.30	.78⅜	3.52	
February	4.82	2.27	4.30	.76⅞	3.92½	
March	4.88	2.28	4.20	.76¼	3.87½	
April	5.28	2.41	4.78	.84 3/12	3.74½	
May	5.50	2.62	5.12	.88	3.86	
June	5.40	2.68	5.13	.86⅛	3.87½	
July	5.16	2.62	5.05	.87 7/12	3.65	
August	5.13	2.63	5.05	.83⅜	3.55	
September	4.87	2.62	4.73	.81½	3.37½	
October	5.24	2.58	4.81	.87 7/12	3.50	
November	5.20	2.57	4.80	.87⅛	3.50	
December	5.20	2.58	4.75	.86 5/16	3.50	
1886.						
January	4.86	2.85	4.63	.80 7/12	3.44	
February	4.75	2.56	4.62	.79 11/12	3.37½	
March	4.75	2.62	4.59	.78¼	3.37½	
April	4.75	2.63	4.55	.76⅜	3.37½	
May	4.70	2.44	4.37	.75½	3.37½	
June	4.38	2.33	4.22	.74½	3.42	
July	4.41	2.32	4.10	.76 1/12	3.35	
August	4.40	2.33	3.93	.76⅜	3.21	
September	4.38	2.32	3.38	.74⅜	3.10	
October	4.19	2.21	3.80	.72⅛	2.94	
November	4.17	2.05	3.80	.74½	2.87½	
December	4.36	2.20	3.90	.77⅜	3.00½	

a The prices given are the averages of highest and lowest prices for each month.

b The kinds and grades of wheat from which the three grades of flour are made are not r
Wheat No. 2, cash, has been placed in correlation, not as material proper, but as a fair repres
of the changes in the price of wheat.

MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899—Continued.

Year and month.	Products.			Material—wheat, No. 2, cash (b), per bush. (a)	Product—rye flour, good to choice, per barrel. (a)	Material—rye, No. 2, in store, per bush. (a)
	Flour, spring wheat, patent process, per barrel. (a)	Flour, good spring supers, low grade, per barrel. (a)	Flour, medium to choice winter wheat, per barrel. (a)			
1887.						
January	$4.49	$1.93	$4.16	$0.78⅜	$3.00	$0.5362
February	4.44	1.92	4.13	.75 3/10	3.00	.5400
March	4.40	1.93	4.11	.76	2.95	.5425
April	4.37	1.92	4.09	.80⅛	2.95	.5600
May	4.45	1.93	4.13	.84⅜	2.95	.5612
June	4.47	1.92	4.14	.79⅜	2.95	.5350
July	4.31	1.95	4.03	.69½	2.95	.4807
August	4.19	1.94	3.91	.68 1/2	2.90½	.4431
September	4.25	1.98	3.90	.69½	2.80	.4587
October	4.28	2.00	3.88	.70¾	2.83	.4925
November	4.25	1.97	3.75	.74⅛	2.90	.5280
December	4.25	1.98	3.75	.77½	2.97½	.6035
1888.						
January	4.22	2.10	3.82	.77	2.96½	.6237
February	4.14	2.10	3.72	.75½	3.01½	.6050
March	4.10	2.10	3.65	.74	3.02½	.5900
April	4.14	2.10	3.65	.76½	3.00	.6200
May	4.21	2.10	3.58	.85½	3.09	.6637
June	4.55	2.10	3.60	.82⅜	3.17½	.5920
July	4.48	2.10	3.60	.82⅜	3.07½	.5100
August	4.38	2.10	3.75	.87½	3.06½	.4837
September	5.21	2.13	4.25	1.27½	2.95½	.5330
October	6.74	2.46	5.80	1.10½	3.70	.5818
November	6.63	2.38	5.70	1.08½	3.71½	.5400
December	6.39	2.17	5.42	1.01½	3.50½	.5114
1889.						
January	6.23	2.22	4.74	.97 1/2	3.27½	.4783
February	6.20	2.17	4.73	1.00¼	3.22½	.4618
March	6.20	2.11	4.79	1.00¼	2.95½	.4275
April	5.73	1.97	4.57	.89	2.79½	.4237
May	5.23	1.90	4.15	.81⅛	3.13	.4050
June	5.17	1.93	4.08	.78½	2.59	.3962
July	5.43	2.02	4.25	.90 1/2	2.75	.4262
August	5.12	2.03	3.90	.77 1/2	2.73	.4275
September	4.81	1.98	3.89	.79⅛	2.69½	.4208
October	4.75	2.00	3.92	.80	2.65	.4162
November	4.64	1.85	3.85	.79 9/10	2.68½	.4362
December	4.54	1.75	3.85	.78¼	2.72½	.4479
1890.						
January	4.50	1.69	3.85	.76½	2.72½	.4542
February	4.44	1.67	3.78	.75⅞	2.72½	.4330
March	4.42	1.68	3.88	.78½	2.69½	.4388
April	4.62	1.82	4.05	.83½	2.67½	.4694
May	5.00	1.92	4.42	.94 7/10	2.77½	.5302
June	4.84	1.85	4.41	.88 7/10	2.80	.4945
July	4.68	1.80	4.28	.89½	2.72½	.4940
August	5.22	2.12	4.59	.98⅜	3.07½	.6050
September	5.50	2.17	4.79	1.00 1/10	3.34	.6162
October	5.25	2.25	4.69	.99⅜	3.51½	.6437
November	4.92	2.25	4.45	.94½	3.68½	.6756
December	4.81	2.23	4.51	.90⅜	3.72½	.6887
1891.						
January	4.68	2.30	4.41	.91 1/2	3.75	.6965
February	4.75	2.35	4.47	.95½	3.81	.7840
March	4.83	2.35	4.45	.98 7/10	4.69	.8922
April	5.12	2.54	4.67	1.07½	4.80	.8925
May	5.33	2.65	4.85	1.03 7/10	4.74	.8658
June	5.04	2.65	4.68	.96½	4.68 7/10	.8130
July	4.92	2.63	4.38	.89⅜	4.56½	.7195
August	5.11	2.75	4.31	1.00 1/10	4.88½	.8532
September	5.06	2.91	4.40	.95½	5.21½	.8805
October	4.85	2.80	4.38	.95½	4.93½	.8631
November	4.80	2.73	4.37	.94	4.92½	.9365
December	4.71	2.65	4.34	.91⅞	4.92½	.9037

a The prices given are the averages of highest and lowest prices for each month.
b The kinds and grades of wheat from which the three grades of flour are made are not reported. Wheat No. 2, cash, has been placed in correlation, not as material proper, but as a fair representative of the changes in the price of wheat.

MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERI
THEIR MANUFACTURE, 1892 TO 1899—Continued.

Year and month.	Products.			Material—	Product—	M
	Flour, spring wheat, patent process, per barrel. (a)	Flour, good spring supers, low grade, per barrel. (a)	Flour, medium to choice winter wheat, per barrel. (a)	wheat, No. 2, cash (b), per bush. (a)	rye flour, good to choice, per barrel. (a)	r
1892.						
January	$4.58	$2.42	$4.28	$0.87⅛	$4.82½	
February	4.46	1.98	4.27	.87⅝	4.70	
March	4.46	1.96	4.26	.83¾	4.45	
April	4.27	1.95	4.08	.81	4.21	
May	4.35	1.95	4.07	.82⅞	4.15	
June	4.37	1.92	4.07	.82½	4.15	
July	4.30	1.81	3.89	.78	3.89	
August	4.25	1.75	3.62	.77	3.55	
September	4.18	1.76	3.53	.73⅛	3.50	
October	4.04	1.72	3.39	.72	3.46	
November	3.94	1.69	3.30	.71½	3.25	
December	3.92	1.55	3.30	.71	3.25	
1893.						
January	3.93	1.48	3.33	.75½	3.22½	
February	3.92	1.47	3.33	.73⅝	3.15	
March	3.92	1.58	3.28	.76	2.95	
April	3.85	1.50	3.25	.79½	2.87½	
May	3.94	1.48	3.15	.72½	2.87½	
June	3.79	1.50	3.08	.65	2.87½	
July	3.75	1.55	2.96	.60⅜	2.83½	
August	3.75	1.55	2.90	.59⅜	2.60	
September	3.75	1.55	2.95	.66½	2.60	
October	3.73	1.55	2.95	.63½	2.60	
November	3.62	1.55	2.90	.60⅞	2.65	
December	3.49	1.55	2.90	.61⅝	2.65	
1894.						
January	3.53	1.55	2.87	.61½	2.51½	
February	3.44	1.52	2.75	.57½	2.45	
March	3.40	1.53	2.56	.57	2.45	
April	3.36	1.50	2.59	.60⅛	2.45	
May	3.32	1.53	2.56	.56⅞	2.45	
June	3.34	1.55	2.50	.57	2.49	
July	3.35	1.55	2.50	.54½	2.50	
August	3.35	1.64	2.44	.53⅝	2.50	
September	3.35	1.69	2.39	.52½	2.50	
October	3.25	1.75	2.37	.51½	2.45	
November	3.28	1.75	2.38	.53½	2.41	
December	3.35	1.75	2.42	.54⅞	2.45	
1895.						
January	3.30	1.75	2.42	.52	2.41½	
February	3.26	1.75	2.37	.50½	2.43½	
March	3.30	1.75	2.47	.53⅜	2.48	
April	3.38	1.76	2.60	.58½	2.71½	
May	3.72	1.96	3.20	.71	3.62½	
June	4.11	2.13	3.65	.75	3.62½	
July	4.02	1.94	3.31	.66⅜	3.21½	
August	3.68	1.88	3.25	.63⅞	2.65	
September	3.45	1.82	3.05	.58½	2.42½	
October	3.32	1.79	3.04	.59½	2.37½	
November	3.24	1.66	3.05	.57	2.37½	
December	3.13	1.54	3.07	.56½	2.27½	
1896.						
January	3.19	1.50	3.13	.62⅜	2.27½	
February	3.24	1.50	3.17	.66½	2.27½	
March	3.26	1.50	3.27	.65½	2.26½	
April	3.44	1.50	3.37	.66⅞	2.22½	
May	3.51	1.48	3.34	.62½	2.20½	
June	3.57	1.48	3.10	.60⅜	2.14	
July	3.41	1.46	3.02	.58½	2.05	
August	3.20	1.35	3.00	.58	1.93½	
September	3.42	1.36	3.12	.62½	1.96½	
October	4.01	1.47	3.48	.73½	2.17	
November	4.50	1.60	4.10	.82½	2.46½	
December	4.47	1.78	4.40	.83⅞	2.68½	

a The prices given are the averages of highest and lowest prices for each month.
b The kinds and grades of wheat from which the three grades of flour are made are not r
Wheat No. 2, cash, has been placed in correlation, not as material proper, but as a fair repres
of the changes in the price of wheat.

MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899—Concluded.

Year and month.	Products.			Material—wheat, No. 2, cash (b), per bush. (a)	Product—rye flour, good to choice, per barrel. (a)	Material—rye, No. 2, in store, per bush. (a)
	Flour, spring wheat, patent process, per barrel. (a)	Flour, good spring supers, low grade, per barrel. (a)	Flour, medium to choice winter wheat, per barrel. (a)			
1897.						
January	$4.27	$1.70	$4.32	$0.77	$2.65	$0.3708
February	4.13	1.57	4.15	.74⅛	2.31½	.3390
March	4.05	1.48	4.10	.73⅛	2.22⅛	.3337
April	3.98	1.47	4.09	.72	2.22⅛	.3310
May	4.09	1.47	4.44	.72½	2.30	.3425
June	3.85	1.44	4.05	.70	2.18	.3337
July	3.93	1.44	3.96	.73½	2.23	.3627
August	4.65	1.74	4.33	.88	2.55	.4600
September	5.28	2.00	4.78	.92⅛	3.30	.4987
October	4.89	1.96	4.68	.90	2.94⅛	.4608
November	4.75	1.78	4.44	.92½	2.97⅛	.4747
December	4.61	1.75	4.30	.96	2.82⅛	.4640
1898.						
January	4.59	1.67	4.33	.99⅛	2.70	.4525
February	4.84	1.77	4.45	1.01⅛	2.80	.4858
March	4.89	1.95	4.40	1.03½	2.85	.4931
April	5.12	2.04	4.49	1.12½	2.96⅛	.5320
May	6.66	2.56	6.15	1.51	3.78⅛	.6624
June	5.19	2.12	4.90	.97½	2.96½	.4487
July	4.48	1.62	3.96	.76⅛	2.60	.4556
August	4.17	1.52	3.36	.70½	2.51½	.4378
September	3.53	1.50	3.11	.65½	2.43	.4543
October	3.49	1.55	3.14	.66 1/16	2.64	.4916
November	3.48	1.65	3.15	.67	2.78⅛	.5131
December	3.37	1.65	3.20	.66½	2.85	.5375
1899.						
January	3.46	1.68	3.40	.71½	2.97⅛	.5594
February	3.55	1.65	3.50	.72 1/16	3.00	.5577
March	3.47	1.52	3.30	.70½	2.79	.5387
April	3.45	1.48	3.19	.73½	2.80	.5565
May	3.52	1.50	3.22	.73 15/16	2.88	.6012
June	3.60	1.58	3.30	.75 1/16	2.91⅛	.5927
July	3.52	1.57	3.22	.72	2.82½	.5504
August	3.50	1.52	3.16	.71⅛	2.63	.5843
September	3.55	1.53	3.21	.72½	2.79	.5595
October	3.55	1.62	3.29	.71 15/16	2.91	.5568
November	3.42	1.60	3.20	.68½	2.83	.5247
December	3.38	1.52	3.10	.66⅛	2.79	.5045

a The prices given are the averages of highest and lowest prices for each month.
b The kinds and grades of wheat from which the three grades of flour are made are not reported. Wheat No. 2, cash, has been placed in correlation, not as material proper, but as a fair representative of the changes in the price of wheat.

RELATIVE MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE M ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899.

[The combination manufacturing a large quantity of these products was organized in J

Year and month.	Products.			Material—	Product—
	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.	wheat, No. 2, cash.	rye flour, good to choice.
1882.					
January	100.0	100.0	100.0	100.0	100.0
February	99.9	99.8	99.9	95.0	97.4
March	97.5	97.6	95.8	98.7	91.3
April	100.9	96.9	95.6	104.8	87.6
May	104.7	96.9	98.1	100.0	85.5
June	104.7	96.9	96.8	99.6	80.0
July	103.7	96.9	93.5	100.2	75.6
August	98.4	86.9	87.2	78.8	73.9
September	93.3	81.8	78.2	78.4	69.8
October	87.3	78.7	72.7	72.2	66.8
November	85.7	78.7	72.7	71.3	66.2
December	81.5	78.7	72.7	70.7	66.2
1883.					
January	83.6	72.6	75.7	75.5	66.9
February	85.3	72.6	79.5	82.3	68.0
March	86.0	72.6	79.9	81.7	66.7
April	88.1	72.6	79.9	80.6	64.6
May	88.8	75.8	81.3	84.9	62.4
June	87.6	73.1	80.4	81.2	61.9
July	84.1	69.7	79.9	76.3	57.4
August	82.5	69.5	78.6	77.8	56.6
September	82.5	69.7	78.3	73.3	57.3
October	82.5	69.5	78.2	71.1	56.9
November	82.1	69.7	78.3	72.8	56.9
December	77.8	69.5	76.7	74.3	57.9
1884.					
January	76.3	66.6	80.2	70.0	56.8
February	74.6	63.4	80.7	71.4	56.4
March	74.5	63.7	82.6	66.4	56.0
April	74.9	60.5	80.2	65.0	56.0
May	76.1	60.5	83.3	68.8	59.1
June	74.9	60.5	79.8	66.4	60.4
July	72.6	60.5	76.9	62.6	59.6
August	69.8	60.5	70.3	60.9	58.2
September	63.5	57.6	62.2	58.4	56.9
October	63.5	54.5	61.5	55.6	56.7
November	60.3	51.6	55.7	55.8	55.3
December	53.9	51.3	54.5	55.5	54.5
1885.					
January	60.4	53.3	62.5	60.2	62.6
February	61.2	55.0	62.5	58.8	69.8
March	61.9	55.2	61.0	58.5	68.9
April	67.0	58.4	69.5	64.6	66.6
May	69.8	63.4	74.4	67.3	68.6
June	68.5	64.9	74.6	66.3	68.9
July	65.5	63.4	73.4	67.0	64.9
August	65.1	63.7	73.4	63.9	63.1
September	61.8	63.4	68.8	62.3	60.0
October	66.5	62.5	69.9	67.0	62.2
November	66.0	62.2	69.8	66.7	62.2
December	66.0	62.5	69.0	66.0	62.2
1886.					
anuary	61.7	69.0	67.3	61.6	61.2
February	60.3	62.0	67.2	60.6	60.0
March	60.3	63.4	66.7	60.0	60.0
April	60.3	63.7	66.1	58.4	60.0
May	59.6	59.1	63.5	57.9	60.0
June	55.6	56.4	61.3	56.8	60.8
July	56.0	56.2	59.6	58.2	59.6
August	55.8	56.4	57.1	58.4	57.1
September	55.6	56.2	49.1	57.1	55.1
October	53.2	53.5	55.2	55.2	52.3
November	52.9	49.6	55.2	57.2	51.1
December	55.3	53.3	56.7	59.2	53.4
1887.					
January	57.0	46.7	60.5	60.2	53.3
February	56.3	46.5	60.0	57.6	53.3
March	55.8	46.7	59.7	58.1	52.4
April	55.5	46.5	59.4	61.3	52.4
May	56.5	46.7	60.0	64.9	52.4

RELATIVE MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899—Continued.

Year and month.	Products.			Material—wheat, No. 2, cash.	Product—rye flour, good to choice.	Material—rye, No. 2, in store.
	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.			
1887.						
June	56.7	46.5	60.2	60.9	52.4	55.9
July	54.7	47.2	58.6	53.2	52.4	50.2
August	53.2	47.0	56.8	52.1	51.6	46.3
September	53.9	47.9	56.7	53.2	49.8	47.9
October	54.3	48.4	56.4	54.1	50.3	51.4
November	53.9	47.7	54.5	56.7	51.6	55.1
December	53.9	47.9	54.5	59.1	52.9	63.0
1888.						
January	53.6	50.8	55.5	58.9	52.7	65.1
February	52.5	50.8	54.1	57.7	53.6	63.2
March	52.0	50.8	53.1	56.6	53.8	61.6
April	52.5	50.8	53.1	58.3	53.3	64.8
May	53.4	50.8	52.0	65.1	54.9	69.3
June	57.7	50.8	52.3	63.0	56.4	61.8
July	56.9	50.8	52.3	63.0	54.7	53.3
August	55.6	50.8	54.5	67.1	54.5	50.5
September	66.1	51.6	61.8	97.5	52.5	55.7
October	85.5	59.6	84.3	84.3	65.8	60.8
November	84.1	57.6	82.8	83.2	66.0	56.4
December	81.1	52.5	78.8	77.8	62.3	53.4
1889.						
January	79.1	53.8	68.9	74.2	58.2	50.0
February	78.7	52.5	68.8	77.1	57.3	48.2
March	78.7	51.1	69.6	76.9	52.5	44.6
April	72.7	47.7	66.4	68.1	49.7	44.3
May	66.4	46.0	60.3	62.5	55.6	42.3
June	65.6	46.7	59.3	60.2	46.0	41.4
July	68.9	48.9	61.8	69.3	48.9	44.5
August	65.0	49.2	56.7	59.0	48.5	44.6
September	61.0	47.9	56.5	60.5	47.9	43.9
October	60.3	48.4	57.0	61.2	47.1	43.5
November	58.9	44.8	56.0	61.1	47.7	45.6
December	57.6	42.4	56.0	59.8	48.4	46.8
1890.						
January	57.1	40.9	56.0	58.4	48.4	47.4
February	56.3	40.4	54.9	57.6	48.4	45.2
March	56.1	40.7	56.4	59.8	47.9	45.8
April	58.6	44.1	58.9	63.7	47.6	49.0
May	63.5	46.5	64.2	72.3	49.3	55.4
June	61.4	44.8	64.1	67.6	49.8	51.6
July	59.4	43.6	62.2	68.5	48.4	51.6
August	66.2	51.3	66.7	75.3	54.7	63.2
September	69.8	52.5	69.6	76.5	59.4	64.4
October	66.6	54.5	68.2	76.3	62.5	67.2
November	62.4	54.5	64.7	72.3	65.5	70.6
December	61.0	54.0	65.6	69.1	66.2	71.9
1891.						
January	59.4	55.7	64.1	69.9	66.7	72.7
February	60.3	56.9	65.0	72.9	67.7	81.9
March	61.3	56.9	64.7	75.4	83.4	93.2
April	65.0	61.5	67.9	82.0	85.3	93.2
May	67.6	64.2	70.5	79.2	84.3	90.4
June	64.0	64.2	68.0	74.0	83.3	84.9
July	62.4	63.7	63.7	68.5	81.2	75.1
August	64.8	66.6	62.6	76.5	86.9	89.1
September	64.2	70.5	64.0	72.8	92.7	92.0
October	61.5	67.8	63.7	73.2	87.7	90.1
November	60.9	66.1	63.5	71.9	87.6	97.8
December	59.8	64.2	63.1	69.9	87.6	94.4
1892.						
January	58.1	58.6	62.2	66.9	85.8	87.6
February	56.6	47.9	62.1	67.2	83.6	86.0
March	56.6	47.5	61.9	63.8	79.1	86.4
April	54.2	47.2	59.3	62.0	74.8	78.3
May	55.2	47.2	59.2	63.2	73.8	79.4
June	55.5	46.5	59.2	63.3	73.8	79.2
July	54.6	43.8	56.5	59.7	69.2	73.3
August	53.9	42.4	52.6	58.9	63.1	67.4
September	53.0	42.6	51.3	55.9	62.2	59.6
October	51.3	41.6	49.3	55.1	61.5	56.7
November	50.0	40.9	48.0	54.5	57.8	52.0
December	49.7	37.5	48.0	54.3	57.8	53.8

RELATIVE MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899—Continued.

Year and month.	Products.			Material—wheat, No. 2, cash.	Product—rye flour, good to choice.	Material—rye, No. 2, in store.
	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.			
1893.						
January	49.9	35.8	48.4	57.5	57.3	56.9
February	49.7	35.6	48.4	56.5	56.0	54.9
March	49.7	38.3	47.7	58.1	52.4	51.4
April	48.9	36.3	47.2	60.6	51.1	52.3
May	50.0	35.8	45.8	55.3	51.1	59.0
June	48.1	36.3	44.8	49.7	51.1	53.2
July	47.6	37.5	43.0	46.1	50.4	51.9
August	47.6	37.5	42.2	45.4	46.2	47.8
September	47.6	37.5	42.9	50.6	46.2	46.1
October	47.3	37.5	42.9	48.4	46.2	46.1
November	45.9	37.5	42.2	46.3	47.1	47.4
December	44.3	37.5	42.2	47.3	47.1	47.9
1894.						
January	44.8	37.5	41.7	46.7	44.7	46.7
February	43.7	36.8	40.0	44.0	43.6	46.1
March	43.1	37.0	37.2	43.6	43.6	48.6
April	42.6	36.3	37.6	46.2	43.6	50.9
May	42.1	37.0	37.2	42.9	43.6	47.3
June	42.4	37.5	36.3	43.6	44.3	50.5
July	42.5	37.5	36.3	41.5	44.4	46.8
August	42.5	39.7	35.5	41.2	44.4	48.3
September	42.5	40.9	34.7	40.3	44.4	49.1
October	41.2	42.4	34.4	39.2	43.6	49.0
November	41.6	42.4	34.6	40.9	42.8	49.3
December	42.5	42.4	35.2	41.7	43.6	50.9
1895.						
January	41.9	42.4	35.2	39.8	42.9	51.4
February	41.4	42.4	34.4	38.8	43.2	54.0
March	41.9	42.4	35.9	40.9	44.1	54.6
April	42.9	42.6	37.8	44.9	48.3	60.5
May	47.2	47.5	46.5	54.3	64.4	67.7
June	52.2	51.6	53.1	57.4	64.4	67.4
July	51.0	47.0	48.1	50.7	57.2	51.8
August	46.7	45.5	47.2	48.6	47.1	45.8
September	43.8	44.1	44.3	44.9	43.1	40.0
October	42.1	43.3	44.2	45.5	42.2	41.5
November	41.1	40.2	44.3	43.6	42.2	38.5
December	39.7	37.3	44.6	43.4	40.4	35.9
1896.						
January	40.5	36.3	45.5	47.6	40.4	38.2
February	41.1	36.3	46.1	51.0	40.4	40.9
March	41.4	36.3	47.5	50.1	40.2	38.9
April	43.7	36.3	49.0	50.5	39.6	38.5
May	44.5	35.8	48.5	47.6	39.2	37.3
June	45.3	35.8	45.1	46.1	38.0	33.7
July	43.3	35.4	43.9	44.9	36.4	31.9
August	40.6	32.7	43.6	44.4	34.4	31.5
September	43.4	32.9	45.3	47.8	34.9	32.9
October	50.9	35.6	50.6	56.0	38.6	37.6
November	57.1	38.7	59.6	63.2	43.8	39.7
December	56.7	43.1	64.0	63.9	47.7	41.1
1897.						
January	54.2	41.2	62.8	58.9	47.1	38.7
February	52.4	38.0	60.3	57.0	41.1	35.4
March	51.4	35.8	59.6	56.2	39.6	34.9
April	50.5	35.6	59.4	55.1	39.6	34.6
May	51.9	35.6	64.5	55.3	40.9	35.8
June	48.9	34.9	58.9	53.5	38.8	34.9
July	49.9	34.9	57.6	56.0	39.6	37.9
August	59.0	42.1	62.9	67.3	45.3	48.0
September	67.0	48.4	69.5	70.7	58.7	52.1
October	62.1	47.5	68.0	68.8	52.4	48.1
November	60.3	43.1	64.5	70.6	52.9	49.6
December	58.5	42.4	62.5	73.4	50.2	48.5
1898.						
January	58.2	40.4	62.9	76.1	48.0	47.3
February	61.4	42.9	64.7	77.6	49.8	50.7
March	62.1	47.2	64.0	79.0	50.7	51.5
April	65.0	49.4	65.3	85.9	52.7	55.6
May	84.5	62.0	89.4	115.5	67.3	69.2
June	65.9	51.3	71.2	74.6	52.7	46.9

RELATIVE MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899—Concluded.

Year and month.	Products.			Material—wheat, No. 2, cash.	Product—rye flour, good to choice.	Material—rye, No. 2, in store.
	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.			
1898.						
July	56.9	39.2	57.6	58.7	46.2	47.6
August	52.9	36.8	48.8	53.7	44.7	45.7
September	44.8	36.3	45.2	49.9	43.2	47.4
October	44.3	37.5	45.6	50.5	46.9	51.3
November	44.2	40.0	45.8	51.2	49.6	53.6
December	42.8	40.0	46.5	50.7	50.7	56.1
1899.						
January	43.9	40.7	49.4	54.5	52.9	58.4
February	45.1	40.0	50.9	55.1	53.3	58.2
March	44.0	36.8	48.0	53.7	49.6	56.3
April	43.8	35.8	46.4	56.0	49.8	58.1
May	44.7	36.3	46.8	56.5	51.2	62.8
June	45.7	38.3	48.0	57.6	51.8	61.9
July	44.7	38.0	46.8	55.1	50.2	57.5
August	44.4	36.8	45.9	54.9	46.8	55.8
September	45.1	37.0	46.7	55.3	49.6	58.4
October	45.1	39.2	47.8	54.6	51.7	58.1
November	43.4	38.7	46.5	52.2	50.3	54.8
December	42.9	36.8	45.1	51.1	49.6	52.7

MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899.

[The prices of the products shown are from the Chicago Grocers' Criterion and the prices of the materials from the Chicago Board of Trade. The combination manufacturing a large quantity of these products was organized in June, 1891.]

Year and month.	Products.		Material—corn, No. 2, cash, per bushel. (a)	Products.		Material—oats, No. 2, cash, per bushel. (a)	Product—pearl barley, per pound.	Material—barley, No. 3, per bushel. (a)
	Corn meal, white, per 196 pounds.	Corn meal, yellow, per 196 pounds.		Oatmeal, per 200 pounds.	Rolled oats, per 180 pounds.			
1888.								
January	$2.75	$2.75	$0.4875	$5.10	$5.50	$0.31¼	$0.03⅛	$0.7712
February	2.75	2.75	.4719	5.10	5.50	.28⅛	.03⅛	.7300
March	2.60	2.00	.4744	5.10	5.50	.28 1/16	.03½	.7180
April	2.90	2.90	.5194	5.35	5.75	.30	.03½	.6475
May	2.75	2.75	.5719	5.10	5.50	.35½	.03½	.6275
June	2.75	2.75	.5119	5.10	5.50	.32½	.03½	.4687
July	2.75	2.60	.4788	5.25	5.75	.30⅜	.03	.4850
August	2.75	2.60	.4531	5.35	5.75	.25⅝	.02⅞	.5450
September	2.75	2.60	.4331	5.35	5.75	.23⅛	.02⅞	.5800
October	2.60	2.60	.4362	5.35	5.75	.26 7/16	.02⅞	.6112
November	2.50	2.50	.3881	5.35	5.75	.25 7/16	.02⅞	.5975
December	2.25	2.25	.3475	5.35	5.75	.25⅝	.02⅞	.5850
1889.								
January	2.20	2.20	.3431	5.10	5.50	.24⅝	.02⅞	.5587
February	2.20	2.20	.3444	5.10	5.50	.25⅛	.02⅞	.5168
March	1.95	1.95	.3450	5.10	5.10	.24 5/16	.02⅞	.4985
April	1.95	1.95	.3438	4.80	5.20	.23⅛	.02⅞	.5187
May	1.95	1.85	.3444	4.60	4.80	.22⅝	.02⅞	.4975
June	1.85	1.85	.3456	4.60	4.80	.22⅛	.02½	.3931
July	2.00	2.00	.3600	4.60	5.00	.22½	.02½	.3675
August	(b)	(b)	.3475	(b)	(b)	.20⅜	(b)	.4450
September	(b)	(b)	.3250	(b)	(b)	.19½	(b)	.4700
October	(b)	(b)	.3200	(b)	(b)	.18⅜	(b)	.3425
November	(b)	(b)	.4587	(b)	(b)	.19⅛	(b)	.4140
December	(b)	(b)	.3206	(b)	(b)	.20⅛	(b)	.3875
1890.								
January	(b)	(b)	.2913	(b)	(b)	.20⅛	(b)	.3930
February	(b)	(b)	.2825	(b)	(b)	.20½	(b)	.3975
March	(b)	(b)	.2868	(b)	(b)	.20⅝	(b)	.3975

a The prices given are the averages of highest and lowest prices for each month.
b Not reported.

MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899—Continued.

Year and month.	Products.		Material—	Products.		Material—	Product—	Material—
	Corn meal, white, per 196 pounds.	Corn meal, yellow, per 196 pounds.	corn, No. 2, cash, per bushel. (a)	Oatmeal, per 200 pounds.	Rolled oats, per 180 pounds.	oats, No. 2, cash, per bushel. (a)	pearl barley, per pound.	barley, No. 3, per bushel. (a)
1890.								
April	(b)	(b)	$0.3131	(b)	(b)	$0.23 3/10	(b)	$0.4438
May	(b)	(b)	.3388	(b)	(b)	.27 1/2	(b)	.4400
June	(b)	(b)	.3388	(b)	(b)	.27 1/2	(b)	.3950
July	(b)	(b)	.4025	(b)	(b)	.31	(b)	.4117
August	(b)	(b)	.4800	(b)	(b)	.36 7/8	(b)	.5760
September	(b)	(b)	.4750	(b)	(b)	.47 1/2	(b)	.6355
October	(b)	(b)	.5075	(b)	(b)	.41 3/10	(b)	.6580
November	(b)	(b)	.5144	(b)	(b)	.41 1/2	(b)	.6833
December	(b)	(b)	.5037	(b)	(b)	.42 1/2	(b)	.6330
1891.								
January	$2.80	$2.80	.4875	$5.90	$5.90	.42 3/10	$0.03 1/2	.6795
February	2.70	2.70	.5237	5.90	5.90	.45 1/2	.03 1/2	.6800
March	2.70	2.70	.6200	5.91	5.90	.50 1/2	.03 1/2	.6900
April	3.30	3.30	.7068	6.45	6.45	.54 1/2	.03 1/2	.7638
May	3.65	3.65	.6225	6.05	6.85	.49 1/2	.03 1/2	.7313
June	3.25	3.25	.5813	5.95	5.95	.39	.03 1/2	.6350
July	3.05	3.05	.6150	5.10	5.10	.36 1/2	.03 1/2	.5328
August	3.05	3.05	.6318	5.10	5.10	.29 1/2	.03 1/2	.5712
September	3.10	3.10	.5837	4.60	4.60	.28	.02 1/2	.4950
October	3.10	3.10	.5525	4.20	4.20	.28 1/2	.02 1/2	.5000
November	3.10	3.10	.6350	4.25	4.25	.32 3/10	.02 1/2	.5112
December	2.95	2.95	.4925	4.30	4.30	.32 1/2	.02 1/2	.5025
1892.								
January	(b)	(b)	.3831	(b)	(b)	.29 1/2	(b)	.5000
February	(b)	(b)	.4050	(b)	(b)	.28 3/10	(b)	.4825
March	(b)	(b)	.3944	(b)	(b)	.28 1/2	(b)	.4850
April	(b)	(b)	.4063	(b)	(b)	.28 1/2	(b)	.5100
May	(b)	(b)	.7031	(b)	(b)	.30 1/2	(b)	.5450
June	(b)	(b)	.5075	(b)	(b)	.31 1/2	(b)	.4882
July	(b)	(b)	.4975	(b)	(b)	.32	(b)	.4780
August	(b)	(b)	.5181	(b)	(b)	.32 1/2	.01 1/2	.5087
September	2.90	2.90	.4619	4.75	4.75	.33 1/10	.02	.5450
October	2.50	2.50	.4257	5.20	5.10	.30	.02 1/2	.5200
November	2.50	2.50	.4156	5.20	5.10	.30 1/2	.02 1/2	.5275
December	2.50	2.50	.4131	5.20	4.95	.30 1/2	.02 1/2	.5300
1893.								
January	2.50	2.50	.4263	4.95	4.65	.31	.01 1/2	.5450
February	2.45	2.45	.4200	4.60	4.45	.30 1/2	.02 1/2	.5312
March	2.40	2.40	.4081	4.55	4.45	.29 7/10	.02 1/2	.5200
April	2.40	2.40	.4075	4.45	4.35	.27 7/10	.02 1/2	.5200
May	2.40	2.40	.4200	4.45	4.35	.30 1/2	.02	.5100
June	2.45	2.45	.3956	4.45	4.35	.29 1/2	.02	.4087
July	2.35	2.35	.3868	4.40	4.10	.26 1/2	.01 1/2	.3733
August	2.35	2.35	.3819	4.20	4.10	.23 1/2	.01 1/2	.3413
September	2.35	2.35	.3987	4.10	3.95	.26 3/10	.01 1/2	.4490
October	(b)	(b)	.3900	(b)	(b)	.27 1/2	(b)	.4675
November	(b)	(b)	.3719	(b)	(b)	.28 1/2	(b)	.4587
December	(b)	(b)	.3538	(b)	(b)	.28 1/2	(b)	.4448
1894.								
January	(b)	(b)	.3487	(b)	(b)	.27 1/2	(b)	.4725
February	(b)	(b)	.3456	(b)	(b)	.28 1/2	(b)	.4775
March	(b)	(b)	.3550	(b)	(b)	.29 1/2	(b)	.5180
April	(b)	(b)	.3756	(b)	(b)	.32	(b)	.5443
May	(b)	(b)	.3750	(b)	(b)	.34 1/2	(b)	.5350
June	(b)	(b)	.3988	(b)	(b)	.42	(b)	.5225
July	(b)	(b)	.4306	(b)	(b)	.34 1/2	(b)	.4700
August	(b)	(b)	.5337	(b)	(b)	.31 1/2	(b)	.5150
September	(b)	(b)	.5325	(b)	(b)	.29 1/2	(b)	.5275
October	3.10	3.00	.5094	4.65	4.40	.28 1/2	.02 1/2	.5150
November	3.10	3.00	.5019	4.20	3.95	.28 1/2	.02 1/2	.5362
December	3.10	3.00	.4631	4.20	4.00	.28 3/10	.02 1/2	.5100
1895.								
January	2.75	2.45	.4325	4.20	3.65	.28 1/2	.02 1/2	.5308
February	2.75	2.45	.4200	4.10	3.75	.27 1/2	.02	.5417
March	2.75	2.45	.4431	4.10	3.75	.28 1/2	.02 1/2	.5238
April	2.75	2.45	.4638	4.10	3.65	.28 3/10	.02	.5017
May	2.75	2.60	.5081	4.10	3.65	.29	.02	.5030
June	2.85	2.85	.4987	3.80	3.70	.28 1/4	.01 1/2	.5050

a The prices given are the averages of highest and lowest prices for each month.
b Not reported.

MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899—Concluded.

Year and month.	Products.		Material—	Products.		Material—	Product—	Material—
	Corn meal, white, per 196 pounds.	Corn meal, yellow, per 196 pounds.	corn, No. 2, cash, per bushel. (a)	Oatmeal, per 200 pounds.	Rolled oats, per 180 pounds.	oats, No. 2, cash, per bushel. (a)	pearl barley, per pound.	barley, No. 3, per bushel. (a)
1895.								
July	$2.85	$2.85	$0.4462	$3.75	$3.65	$0.23 9/10	$0.01 7/8	$0.4088
August	2.80	2.80	.3969	3.50	3.25	.20 1/2	.01 3/8	.3750
September	2.30	2.30	.3337	3.50	3.00	.19 1/2	(b)	.3506
October	2.15	2.15	.3000	3.50	2.95	.18 1/2	.01 1/8	.3187
November	2.10	2.10	.2794	3.40	3.00	.18 1/2	.01 1/8	.3160
December	2.00	2.00	.2581	3.00	2.75	.17	.01 1/8	.3000
1896.								
January	1.90	1.80	.2688	3.20	2.55	.18 1/2	.01 1/8	.3030
February	1.80	1.70	.2838	3.10	2.50	.19 1/2	.01 1/8	.3131
March	1.85	1.75	.2862	3.10	2.75	.19 1/2	.01 1/8	.3056
April	1.80	1.70	.2962	3.10	2.60	.19 1/2	.01 1/8	.3195
May	1.90	1.70	.2850	3.10	2.60	.18 1/2	.01 1/8	.3180
June	1.90	1.70	.2738	3.00	2.60	.16 7/8	.01 1/8	.2774
July	1.90	1.65	.2594	3.25	2.50	.16 1/2	.01 1/8	.2620
August	1.95	1.70	.2275	3.35	2.90	.17 1/2	.01 1/8	.2743
September	1.85	1.60	.2087	3.55	3.10	.16	.01 1/8	.2756
October	1.90	1.65	.2312	3.90	3.65	.18 3/10	.01 1/8	.3080
November	1.95	1.65	.2413	4.40	4.00	.18 3/8	.01 1/8	.3093
December	1.95	1.65	.2313	4.60	4.00	.17 7/8	.01 1/8	.2994
1897.								
January	1.95	1.65	.2256	4.25	3.50	.16 3/4	.01 1/8	.2940
February	1.60	1.45	.2250	3.65	3.25	.16 1/2	.01 3/16	.2859
March	1.60	1.40	.2375	3.40	3.00	.16 1/4	.01 1/4	.2813
April	1.60	1.40	.2419	3.40	2.90	.17 1/2	.01 1/4	.2925
May	1.70	1.45	.2425	3.30	2.90	.17 3/4	.01 1/4	.2987
June	1.70	1.45	.2444	3.20	2.75	.18 1/2	.01 1/4	.2988
July	1.70	1.40	.2644	3.20	2.75	.17 1/4	.01 1/4	.3090
August	1.95	1.60	.2937	3.40	3.00	.18 1/2	.01 1/4	.3245
September	2.00	1.85	.2962	4.40	4.00	.19 3/4	.01 3/8	.3813
October	2.00	1.80	.2650	3.40	3.00	.18 1/4	.01 1/4	.3518
November	1.85	1.70	.2669	3.40	3.00	.20 1/2	.01 1/4	.3919
December	1.85	1.70	.2625	3.40	3.00	.22 3/8	.01 1/4	.3555
1898.								
January	1.85	1.70	.2713	3.60	3.25	.22 1/2	.01 1/4	.3238
February	1.85	1.65	.2894	3.75	3.35	.25 1/4	.01 3/8	.3387
March	1.95	1.75	.2894	3.90	3.50	.25 1/2	.01 3/8	.3737
April	1.95	1.75	.3206	4.00	3.60	.28 3/4	.01 1/2	.4125
May	1.95	1.80	.3469	4.20	3.85	.29	.01 3/4	.4675
June	2.05	2.00	.3237	4.10	3.70	.23 1/4	.01 3/8	.3575
July	2.05	1.75	.3362	3.90	3.50	.23 1/4	.01 3/4	.3310
August	2.15	1.80	.3175	3.70	3.30	.21 5/8	.01 3/4	.3687
September	2.00	1.70	.3025	3.70	3.25	.21 3/10	.01 3/4	.3660
October	2.00	1.70	.3081	3.00	3.20	.23 1/4	.01 3/4	.3850
November	2.00	1.70	.3306	3.60	3.20	.26	.01 7/8	.4313
December	2.00	1.95	.3556	3.70	3.30	.26 1/4	.02	.4520
1899.								
January	2.05	2.00	.3668	3.70	3.30	.27	.01 9/10	.4656
February	2.05	2.00	.3525	3.90	3.50	.27 3/8	.01 9/10	.4581
March	2.15	2.10	.3456	4.15	3.65	.26 1/4	.01 9/10	.4485
April	2.15	2.10	.3462	3.90	3.45	.26 3/4	.01 7/8	.4412
May	2.05	1.80	.3344	3.85	3.45	.25 7/8	.01 3/4	.3912
June	2.15	2.10	.3438	3.80	3.40	.25 1/4	.01 3/4	.3817
July	2.15	2.10	.3294	3.90	3.40	.23 3/4	.01 3/4	.3910
August	2.15	2.10	.3175	3.90	3.40	.20 3/4	.01 3/4	.3713
September	2.10	2.10	.3313	4.00	3.60	.22 1/2	.01 3/4	.4005
October	2.10	2.10	.3200	4.55	4.15	.22 1/2	.02 1/16	.4162
November	2.10	2.05	.3200	4.65	4.25	.23 1/4	.02 1/4	.4016
December	2.10	2.05	.3075	4.30	3.90	.22 3/4	.02 1/4	.3890

a The prices given are the averages of highest and lowest prices for each month.
b Not reported.

RELATIVE MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATE
ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899.

[The combination manufacturing a large quantity of these products was organized in Jun

Year and month.	Products.		Material—corn, No. 2, cash.	Products.		Material—oats, No. 2, cash.	Product—pearl barley.
	Corn meal, white.	Corn meal, yellow.		Oatmeal.	Rolled oats.		
1888.							
January	100.0	100.0	100.0	100.0	100.0	100.0	100.0
February	100.0	100.0	96.8	100.0	100.0	91.2	96.4
March	94.5	72.7	97.3	100.0	100.0	90.9	92.9
April	105.5	105.5	106.5	104.9	104.5	96.0	92.9
May	100.0	100.0	117.3	100.0	100.0	112.8	92.9
June	100.0	100.0	105.0	100.0	100.0	102.9	92.9
July	100.0	94.5	98.2	102.9	104.5	98.1	85.7
August	100.0	94.5	92.9	104.9	104.5	81.9	82.1
September	100.0	94.5	88.8	104.9	104.5	76.2	82.1
October	94.5	94.5	89.5	104.9	104.5	84.2	78.6
November	90.9	90.9	79.6	104.9	104.5	82.2	78.6
December	81.8	81.8	71.3	104.9	104.5	82.6	78.6
1889.							
January	80.0	80.0	70.4	100.0	100.0	79.4	75.0
February	80.0	80.0	70.6	100.0	100.0	80.5	71.4
March	70.9	70.9	70.8	100.0	92.7	79.7	67.9
April	70.9	70.9	70.5	94.1	94.5	74.8	67.9
May	70.9	67.3	70.6	90.2	87.3	72.3	67.9
June	67.3	67.3	70.9	90.2	87.3	71.6	64.3
July	72.7	72.7	73.8	90.2	90.9	72.0	64.3
August	(a)	(a)	71.3	(a)	(a)	65.3	(a)
September	(a)	(a)	66.7	(a)	(a)	61.6	(a)
October	(a)	(a)	65.6	(a)	(a)	60.0	(a)
November	(a)	(a)	94.1	(a)	(a)	63.6	(a)
December	(a)	(a)	65.8	(a)	(a)	65.6	(a)
1890.							
January	(a)	(a)	59.8	(a)	(a)	66.4	(a)
February	(a)	(a)	57.9	(a)	(a)	64.8	(a)
March	(a)	(a)	58.8	(a)	(a)	66.8	(a)
April	(a)	(a)	64.2	(a)	(a)	74.6	(a)
May	(a)	(a)	69.5	(a)	(a)	87.6	(a)
June	(a)	(a)	69.5	(a)	(a)	88.8	(a)
July	(a)	(a)	82.6	(a)	(a)	99.2	(a)
August	(a)	(a)	98.5	(a)	(a)	118.0	(a)
September	(a)	(a)	97.4	(a)	(a)	152.5	(a)
October	(a)	(a)	104.1	(a)	(a)	132.2	(a)
November	(a)	(a)	105.5	(a)	(a)	133.6	(a)
December	(a)	(a)	108.3	(a)	(a)	135.7	(a)
1891.							
January	101.8	101.8	100.0	115.7	107.3	137.3	89.3
February	98.2	98.2	107.4	115.7	107.3	144.8	89.3
March	98.2	98.2	127.2	115.9	107.3	160.8	89.3
April	120.0	120.0	145.0	126.5	117.3	174.4	89.3
May	132.7	132.7	127.7	118.6	124.5	158.7	92.9
June	118.2	118.2	119.2	116.7	108.2	124.8	92.9
July	110.9	110.9	126.2	100.0	92.7	116.4	92.9
August	110.9	110.9	129.6	100.0	92.7	94.4	92.9
September	112.7	112.7	119.7	90.2	83.6	89.6	82.1
October	112.7	112.7	113.3	82.4	76.4	90.4	75.0
November	112.7	112.7	130.3	83.3	77.3	103.4	75.0
December	107.3	107.3	101.0	84.3	78.2	103.6	67.9
1892.							
January	(a)	(a)	78.6	(a)	(a)	93.4	(a)
February	(a)	(a)	83.1	(a)	(a)	92.5	(a)
March	(a)	(a)	80.9	(a)	(a)	90.0	(a)
April	(a)	(a)	83.3	(a)	(a)	92.0	(a)
May	(a)	(a)	144.2	(a)	(a)	98.6	(a)
June	(a)	(a)	104.1	(a)	(a)	100.0	(a)
July	(a)	(a)	102.1	(a)	(a)	102.4	(a)
August	(a)	(a)	106.3	(a)	(a)	104.0	50.0
September	105.5	105.5	94.7	93.1	86.4	105.8	57.1
October	90.9	90.9	87.3	102.0	92.7	96.0	71.4
November	90.9	90.9	85.3	102.0	92.7	97.6	71.4
December	90.9	90.9	84.7	102.0	90.0	97.3	71.4
1893.							
January	90.9	90.9	87.4	97.1	84.5	99.2	53.6
February	89.1	89.1	86.2	90.2	80.9	97.9	71.4
March	87.3	87.3	83.7	89.2	80.9	95.7	67.9
April	87.3	87.3	83.6	87.3	79.1	89.3	64.3
May	87.3	87.3	86.2	87.3	79.1	97.6	57.1

a Not reported.

RELATIVE MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899—Continued.

Year and month.	Products.		Material—corn, No. 2, cash.	Products.		Material—oats, No. 2, cash.	Product—pearl barley.	Material—barley, No. 3.
	Corn meal, white.	Corn meal, yellow.		Oatmeal.	Rolled oats.			
1893.								
June	89.1	89.1	81.1	87.3	79.1	94.0	57.1	53.0
July	85.5	85.5	79.3	86.3	74.5	83.7	50.0	48.4
August	85.5	85.5	78.3	82.4	74.5	75.2	50.0	44.3
September	85.5	85.5	81.8	80.4	71.8	84.2	50.0	58.2
October	(a)	(a)	80.0	(a)	(a)	86.8	(a)	60.6
November	(a)	(a)	76.3	(a)	(a)	90.4	(a)	59.5
December	(a)	(a)	72.6	(a)	(a)	90.0	(a)	57.7
1894.								
January	(a)	(a)	71.5	(a)	(a)	87.6	(a)	61.3
February	(a)	(a)	70.9	(a)	(a)	90.8	(a)	61.9
March	(a)	(a)	72.8	(a)	(a)	95.4	(a)	67.2
April	(a)	(a)	77.0	(a)	(a)	102.8	(a)	70.6
May	(a)	(a)	76.9	(a)	(a)	109.6	(a)	69.4
June	(a)	(a)	81.8	(a)	(a)	134.4	(a)	67.8
July	(a)	(a)	88.3	(a)	(a)	111.2	(a)	60.9
August	(a)	(a)	109.5	(a)	(a)	100.0	(a)	66.8
September	(a)	(a)	109.2	(a)	(a)	93.3	(a)	68.4
October	112.7	109.1	104.5	91.2	80.0	90.4	64.3	66.8
November	112.7	109.1	103.0	82.4	71.8	91.2	64.3	69.5
December	112.7	109.1	95.0	82.4	72.7	92.5	64.3	66.1
1895.								
January	100.0	89.1	88.7	82.4	66.4	90.0	64.3	68.8
February	100.0	89.1	86.2	80.4	68.2	88.0	57.1	70.2
March	100.0	89.1	90.9	80.4	68.2	92.0	60.7	67.9
April	100.0	89.1	95.1	80.4	66.4	90.6	57.1	65.1
May	100.0	94.5	104.2	80.4	66.4	92.8	57.1	65.2
June	103.6	103.6	102.3	74.5	67.3	91.2	53.6	65.5
July	103.6	103.6	91.5	73.5	66.4	76.5	53.6	53.0
August	101.8	101.8	81.4	68.6	59.1	65.6	50.0	48.6
September	83.6	83.6	68.5	68.6	54.5	61.6	(a)	45.5
October	78.2	78.2	61.5	68.6	53.6	58.0	46.4	41.3
November	76.4	76.4	57.3	66.7	54.5	58.0	46.4	41.0
December	72.7	72.7	52.9	58.8	50.0	54.4	45.7	38.9
1896.								
January	69.1	65.5	55.1	62.7	46.4	58.2	42.9	39.3
February	65.5	61.8	58.2	60.8	45.5	63.2	39.3	40.6
March	67.3	63.6	58.7	60.8	50.0	61.6	39.3	39.6
April	65.5	61.8	60.8	60.8	47.3	61.2	35.7	41.4
May	69.1	61.8	58.5	60.8	47.3	60.2	35.7	41.2
June	69.1	61.8	56.2	58.8	47.3	54.0	35.7	36.0
July	69.1	60.0	53.2	63.7	45.5	53.6	35.7	34.0
August	70.9	61.8	46.7	65.7	52.7	54.8	35.7	35.6
September	67.3	58.2	42.8	69.6	56.4	51.2	35.7	35.7
October	69.1	60.0	47.4	76.5	66.4	58.6	35.7	39.9
November	70.9	60.0	49.5	86.3	72.7	59.5	39.3	40.1
December	70.9	60.0	47.4	90.2	72.7	56.3	39.3	38.8
1897.								
January	70.9	60.0	46.3	83.3	63.6	52.4	39.3	38.1
February	58.2	52.7	46.2	71.6	59.1	51.6	37.1	37.1
March	58.2	50.9	48.7	66.7	54.5	52.8	35.7	36.5
April	58.2	50.9	49.6	66.7	52.7	54.8	32.1	37.9
May	61.8	52.7	49.7	64.7	52.7	56.5	32.1	38.7
June	61.8	52.7	50.1	62.7	50.0	58.0	32.1	38.7
July	61.8	50.9	54.2	62.7	50.0	56.0	32.7	40.1
August	70.9	58.2	60.2	66.7	54.5	58.1	35.7	42.1
September	72.7	67.3	60.8	86.3	72.7	63.4	40.0	49.4
October	72.7	65.5	54.4	66.7	54.5	60.0	39.3	45.6
November	67.3	61.8	54.7	66.7	54.5	66.8	46.4	50.8
December	67.3	61.8	53.8	66.7	54.5	71.7	42.9	46.1
1898.								
January	67.3	61.8	55.7	70.6	59.1	72.8	42.9	42.0
February	67.3	60.0	59.4	73.5	60.9	81.6	39.3	43.9
March	70.9	63.6	59.4	76.5	63.6	82.6	40.0	48.5
April	70.9	63.6	65.8	78.4	65.5	90.9	42.9	53.5
May	70.9	65.5	71.2	82.4	70.0	92.8	46.4	60.6
June	74.5	72.7	66.4	80.4	67.3	76.0	50.0	46.4
July	74.5	63.6	69.0	76.5	68.6	74.8	46.4	42.9
August	78.2	65.5	65.1	72.5	60.0	68.4	42.9	47.8
September	72.7	61.8	62.1	72.5	59.1	68.2	46.4	47.5
October	72.7	61.8	63.2	58.8	58.2	74.4	50.0	49.9
November	72.7	61.8	67.8	70.6	58.2	83.2	53.6	55.9
December	72.7	70.9	72.9	72.5	60.9	86.0	57.1	58.6

a Not reported.

RELATIVE MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERI ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899—Concluded.

Year and month.	Products.		Material—corn, No. 2, cash.	Products.		Material—oats, No. 2, cash.	Product—pearl barley.	Ma ria barl No
	Corn meal, white.	Corn meal, yellow.		Oatmeal.	Rolled oats.			
1899.								
January	74.5	72.7	75.2	72.5	60.0	86.4	54.3	
February	74.5	72.7	72.3	76.5	63.6	88.3	54.3	
March	78.2	76.4	70.9	81.4	66.4	84.8	54.3	
April	78.2	76.4	71.0	76.5	62.7	85.8	50.0	
May	74.5	65.5	68.6	75.5	62.7	81.9	50.0	
June	78.2	76.4	70.5	74.5	61.8	80.8	50.0	
July	78.2	76.4	67.6	76.5	61.8	76.0	50.0	
August	78.2	76.4	65.1	76.5	61.8	65.9	50.0	
September	76.4	76.4	68.0	78.4	65.5	70.8	46.4	
October	76.4	76.4	65.6	89.2	75.5	72.8	60.0	
November	76.4	74.5	65.6	91.2	77.3	74.4	64.3	
December	76.4	74.5	63.1	84.3	70.9	72.3	64.3	

A general inspection of the table showing the monthly prices crackers of various kinds as compared with that of flour shows th for two or three months in 1898 there was a decided advance in t price of flour and also some advance in the price of crackers, but t table seems to indicate that in some instances, since the formation the combination in the earlier part of 1898, the margin must ha increased. There has certainly been a decided decrease in the pri of flour. There has apparently been but a slight increase, if any, the price of lard, whereas the price of the finished product seems have remained substantially uniform.

The general result of the study of the prices in the preceding tabl in the specific instances where the margin between the price of t raw material and of the finished product can be definitely ascertaine and where the writer has sufficient information regarding the pro esses so that the reasons for the variations in the prices can be ad quately checked, seems to show that the combinations have in some case had the power, temporarily at least, to control the market to a con siderable extent, and that in most such cases they have used this powe to increase the margin between the raw material and the finishe product—possibly by forcing the price of the finished material up o by forcing the price of the raw material down; possibly in certai instances the power has been exerted in both ways. At any rate th margin has increased, and with this, beyond question, the profits o the manufacturers. On the other hand, several instances to whic attention has been called show that apparently this power is by n means sufficient to remove the combination from the influence of com petition, either actual or potential, and that in a good many instances within a comparatively short time after the formation of the combi nation, the margin has again decreased until it was as small as befor the formation of the combination, at times even smaller. It is to b expected usually, of course, that as time passes improvements i

methods of production will lessen the cost, and that in consequence, with the same profits, the margin will decrease somewhat. If the combinations have been enabled to make the economies that their promoters ordinarily promise, this decrease in the margin would be expected, even though their profits were to increase somewhat. The fact that the power to increase the margin, temporarily at least, somewhat arbitrarily, and the fact that this margin has been increased in specific cases, seem to be clearly established. Here again, however, one needs to be warned somewhat against too radical or too general conclusions. Those combinations that have been formed, for example, during the last year in a good many lines of industry have possibly been enabled to increase the margin mainly on account of the very strong demand for their products. In these industries the margin has probably been increased also to an almost equal degree by private companies who have not entered into any combination, the result in both cases being largely due to the extremely favorable conditions of business.

The large mass of material furnished, of which no interpretation whatever has been attempted, will afford the opportunity to those skilled in the various lines of business represented to reach conclusions more complete than any offered here. The list of tables in which this material, both in wages and prices, is presented is as follows:

TABLE I.—Rates of wages in various occupations.
TABLE II.—Monthly prices of pig iron, steel billets, rails, etc., 1889 to 1899.
TABLE III.—Relative monthly prices of pig iron, steel billets, rails, etc., 1889 to 1899.
TABLE IV.—Monthly prices of finished iron and steel, 1889 to 1899.
TABLE V.—Relative monthly prices of finished iron and steel, 1889 to 1899.
TABLE VI.—Monthly prices of old material, coal, and coke, 1889 to 1899.
TABLE VII.—Relative monthly prices of old material, coal, and coke, 1889 to 1899.
TABLE VIII.—Monthly prices of smooth wire, September, 1895, to December, 1899.
TABLE IX.—Monthly prices of starch and glucose and the material entering into their manufacture, 1888 to 1899.
TABLE X.—Relative monthly prices of starch and glucose and the material entering into their manufacture, 1888 to 1899.

TABLE 1.—RATES OF WAGES IN VARIOUS OCCUPATIONS.

[Rates of wages are given for the first year for which they were obtainable and for each s year in which changes in rates occurred up to April, 1900. For example, when under any o only one date is shown, it is to be understood that there was no change in number of emp rates of wages up to April, 1900. In occupations where employees are paid by the piece ave earnings have been computed wherever possible.]

AWNINGS, TENTS, AND SAILS.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages pe	
						Lowest.	Highest.
Awning and tent makers:							
Boston, Mass	1	1895	16	F.	53½	$1.16½	$1.33½
Sailmakers:							
Boston, Mass	1	1895	10	M.	60	2.50	2.66½

BAKERY PRODUCTS AND CONFECTIONERY.

Bakers:							
Atlanta, Ga	1	1890	16	M.	60	$0.60	$2.00
	1	1899	18	M.	60	.60	2.00
Boston, Mass	3	1891	34	M.	a 82	1.00	3.50
	3	1892	37	M.	a 82	1.00	4.16½
	3	1893	47	M.	a 82	1.00	4.16½
	3	1894	35	M.	a 82	1.25	4.16½
	3	1895	37	M.	a 74	1.25	4.16½
	3	1896	34	M.	a 74	1.25	4.16½
	3	1897	40	M.	a 74	1.16½	4.16½
	3	1898	44	M.	a 74	1.25	4.16½
	3	1899	48	M.	a 68	1.16½	4.16½
	3	1900	51	M.	a 68	1.16½	4.16½
Candy makers:							
Atlanta, Ga	2	1890	32	M.	60	.75	4.16½
	2	1899	39	M.	60	.66½	6.66½
	2	1890	19	F.	60	.41½	2.00
	2	1899	50	F.	60	.41½	.75
Foremen, bakers:							
Atlanta, Ga	1	1890	1	M.	60	4.16½	4.16½

BEER, ALE, AND PORTER.

Bottlers:							
Philadelphia, Pa	1	1891	43	M.	60	$0.75	$3.83½
	1	1893	47	M.	60	.75	3.83½
	1	1894	31	M.	60	.75	3.83½
	1	1900	14	M.	60	.75	3.83½
Brewery workmen: (b)							
Philadelphia, Pa	1	1891	56	M.	60	2.33½	3.00
Cellar men:							
Philadelphia, Pa	1	1891	41	M.	60	2.50	3.33½
	1	1895	46	M.	60	2.50	3.33½
Drivers:							
Philadelphia, Pa	1	1891	53	M.	72	2.33½	3.00
	1	1892	62	M.	72	2.33½	2.83½
	1	1895	51	M.	72	2.33½	2.66½
Engineers:							
Philadelphia, Pa	1	1891	15	M.	84	1.71½	2.57
	1	1893	19	M.	84	1.71½	2.85½
	1	1894	19	M.	84	1.71½	2.85½
Firemen:							
Philadelphia, Pa	1	1891	9	M.	84	1.71½	2.00
	1	1892	13	M.	84	1.71½	2.14½
	1	1894	17	M.	84	1.71½	2.14½
	1	1895	10	M.	84	2.14½	2.14½
	1	1897	10	M.	84	2.00	2.00
Firemen's helpers:							
Philadelphia, Pa	1	1891	4	M.	84	1.50	1.50
	1	1895	25	M.	84	1.50	1.71½
	1	1897	16	M.	84	1.50	1.50

a Average.
b Including barrel washers, coopers, stampers, and general laborers.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BEER, ALE, AND PORTER—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Hostlers:								
Philadelphia, Pa.	1	1891	19	M.	a 72	$2.00	$2.16⅔	$2.03⅓
	1	1895	32	M.	a 72	2.00	2.00	2.00
Kettle men:								
Philadelphia, Pa.	1	1891	13	M.	60	2.50	3.00	2.70⅚
	1	1895	12	M.	60	2.50	3.00	2.66⅔
Mechanics:								
Philadelphia, Pa.	1	1891	28	M.	60	2.00	3.16⅔	2.39⅙
	1	1894	24	M.	60	2.00	3.33⅓	2.48

BLACKSMITHING AND HORSESHOEING.

Blacksmiths:								
Boston, Mass.	3	1891	4	M.	53½	$2.70	$2.70	$2.70
	3	1895	4	M.	51	2.55	2.55	2.55
Raleigh, N. C.	4	1890	2	M.	60	1.25	1.25	1.25
	4	1895	2	M.	60	1.25	1.50	1.37½
	4	1900	2	M.	60	1.50	1.67	1.58⅓
Blacksmiths' helpers:								
Boston, Mass.	3	1891	4	M.	53½	1.80	1.80	1.80
	3	1895	4	M.	51	1.70	1.70	1.70
Raleigh, N. C.	4	1890	3	M.	60	.67	.67	.67
	4	1895	2	M.	60	.75	.75	.75
	4	1900	3	M.	60	.85	.85	.85
Horseshoers:								
Atlanta, Ga.	1	1890	10	M.	60	1.25	2.50	1.67⅓
	1	1893	4	M.	60	2.50	3.00	2.75
	2	1890	4	M.	60	2.50	2.50	2.50
	2	1894	4	M.	60	2.00	2.00	2.00

BOOTS AND SHOES.

Cutters:								
Brockton, Mass	2	1896	49	M.	58	$2.00	$3.00	$2.53
	2	1897	43	M.	58	1.75	3.00	2.52½
Cutters, sole:								
Brockton, Mass	1	1895	12	M.	59½	1.50	2.50	2.12½
	1	1897	11	M.	59½	1.75	2.75	2.25
	1	1899	14	M.	59½	2.25	2.75	2.41
	1	1900	13	M.	59½	2.00	2.75	2.38½
Cutters, upper:								
Brockton, Mass	1	1895	12	M.	59½	2.00	2.75	2.37½
	1	1897	12	M.	59½	2.00	3.00	2.52
	1	1900	20	M.	59½	2.00	2.75	2.43½
Edge setters:								
Brockton, Mass	1	1895	2	M.	59½	3.54½	3.54½	3.54½
	1	1897	4	M.	59½	2.67½	3.97½	3.52½
	1	1899	5	M.	59½	3.70½	5.20	4.53½
	1	1900	6	M.	59½	2.83½	3.73	3.42
Edge trimmers:								
Brockton, Mass	1	1895	3	M.	59½	2.16½	3.25	2.52½
	1	1897	5	M.	59½	2.03½	3.01	2.45
	1	1899	8	M.	59½	2.29½	4.21½	3.61
	1	1900	9	M.	59½	2.26	4.21½	3.40
Finishers:								
Brockton, Mass	2	1896	29	M.	58	(b)	(b)	3.16½
	2	1897	25	M.	58	(b)	(b)	2.98
	2	1898	23	M.	58	(b)	(b)	3.59
	2	1899	45	M.	58	(b)	(b)	2.92
	2	1900	57	M.	58	(b)	(b)	3.15

a In addition, 2 hours' gratuitous work is required on Sundays.
b Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Conti

[Rates of wages are given for the first year for which they were obtainable and for each su year in which changes in rates occurred up to April, 1900. For example, when under any oc only one date is shown, it is to be understood that there was no change in number of empl rates of wages up to April, 1900. In occupations where employees are paid by the piece aver earnings have been computed wherever possible.]

BOOTS AND SHOES—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages pe	
						Lowest.	Highest.
Lasters:							
Brockton, Mass	1	1895	20	M.	59½	$1.92	$3.46
	1	1897	15	M.	59½	1.52	3.24
	1	1899	37	M.	59½	2.55	3.47
	1	1900	37	M.	59½	2.62½	3.48
	2	1896	46	M.	58	(a)	(a)
	2	1897	52	M.	58	(a)	(a)
	2	1898	47	M.	58	(a)	(a)
	2	1899	69	M.	58	(a)	(a)
	2	1900	120	M.	58	(a)	(a)
Stitchers, bottom:							
Brockton, Mass	1	1895	5	M.	59½	2.50	3.05
	1	1897	5	M.	59½	2.62½	3.43½
	1	1899	9	M.	59½	3.17	4.14½
	1	1900	10	M.	59½	3.20	3.66½
Stitchers, upper:							
Brockton, Mass	1	1895	16	F.	58	1.29	2.78
	1	1897	19	F.	58	1.24½	3.13½
	1	1899	41	F.	58	1.31½	3.18
	1	1900	41	F.	58	1.20½	3.05
	2	1896	32	M.	58	1.75	3.16½
	2	1898	31	M.	58	1.75	3.00
	2	1899	33	M.	58	1.75	3.00
	2	1900	64	M.	58	1.75	3.00
	2	1896	76	F.	58	1.75	3.16½
	2	1899	99	F.	58	1.75	3.00
	2	1900	161	F.	58	1.75	3.16½
Table hands:							
Brockton, Mass	1	1895	14	F.	58	.87½	1.92
	1	1897	12	F.	58	.92	1.91½
	1	1899	22	F.	58	1.14½	2.21½
	1	1900	20	F.	58	1.20½	2.38½
Treers:							
Brockton, Mass	1	1895	12	M.	59½	1.42	2.24
	1	1897	12	M.	59½	1.46½	2.36
	1	1899	14	M.	59½	1.44	2.86
	1	1900	16	M.	59½	1.83½	2.47
	2	1896	29	M.	58	(a)	(a)
	2	1897	24	M.	58	(a)	(a)
	2	1898	27	M.	58	(a)	(a)
	2	1899	23	M.	58	(a)	(a)
	2	1900	44	M.	58	(a)	(a)
Vampers:							
Brockton, Mass	1	1895	7	F.	58	1.96	2.68
	1	1897	9	F.	58	2.12	2.92½
	1	1899	14	F.	58	2.06½	3.07
	1	1900	14	F.	58	1.88	3.01
Welters:							
Brockton, Mass	1	1895	2	M.	59½	3.25	3.25
	1	1897	3	M.	59½	4.06½	4.09
	1	1899	8	M.	59½	3.73½	4.39½
	1	1900	8	M.	59½	3.97	4.21½
BOXES, PAPER.							
Box makers:							
Boston, Mass	1	1891	20	F.	59	$0.83½	$1.16½
	1	1897	50	F.	59	.75	1.50
	1	1899	50	F.	59	.83½	1.66½
Cutters:							
Boston, Mass	1	1891	3	M.	59	2.00	3.00
	1	1895	4	M.	59	2.00	2.66½
	1	1899	5	M.	59	2.00	3.00
	1	1900	4	M.	59	2.00	3.00
New York, N. Y	2	1891	3	M.	59	1.83½	2.50
	2	1898	3	M.	59	1.91½	2.58½
	2	1899	3	M.	59	2.00	2.66½

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BOXES, PAPER—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Pasters:								
New York, N. Y	2	1891	20	F.	59	$0.50	$1.16⅔	$0.83⅓
	2	1898	20	F.	59	.58⅓	1.25	.91⅔
	2	1899	20	F.	59	.66⅔	1.33⅓	1.00

BOXES, WOODEN.

Box makers:								
Boston, Mass	2	1892	39	M.	60	$1.00	$1.83⅓	$1.39
	2	1895	41	M.	60	1.00	2.00	1.46⅔
	2	1899	48	M.	60	1.00	2.00	1.44
	2	1900	49	M.	60	1.00	2.00	1.44⅔
New York, N. Y	3	1891	75	(a)	59	1.66⅔	3.33⅓	2.66⅔
Drivers:								
New York, N. Y	3	1890	8	M.	59	1.66⅔	1.66⅔	1.66⅔
	3	1898	8	M.	59	1.66⅔	1.83⅓	1.75
Edge trimmers:								
New York, N. Y	4	1891	37	M.	59	1.50	1.66⅔	1.58⅓
Engineers, stationary:								
New York, N. Y	3	1891	1	M.	59	3.00	3.00	3.00
Firemen, stationary:								
New York, N. Y	3	1891	1	M.	59	1.66⅔	1.66⅔	1.66⅔
Nailers:								
Boston, Mass	1	1891	6	M.	60	.83	3.00	1.66⅔
	1	1899	6	M.	58	.83	3.00	1.66⅔
New York, N. Y	4	1891	25	M.	59	2.00	2.33⅓	2.16⅔
	5	1898	5	M.	60	2.00	2.00	2.00
	5	1900	5	M.	60	2.16⅔	2.16⅔	2.16⅔
Paper cutters:								
New York, N. Y	4	1891	6	M.	59	1.66⅔	2.00	1.83⅓
	5	1898	1	M.	60	2.00	2.00	2.00
	5	1899	1	M.	60	2.16⅔	2.16⅔	2.16⅔
	5	1900	1	M.	60	2.33⅓	2.33⅓	2.33⅓
Pasters:								
Boston, Mass	1	1891	(a)	F.	60	.50	1.66⅔	(a)
	1	1899	28	F.	58	.50	1.66⅔	.88⅓
New York, N. Y	5	1898	13	F.	60	1.08⅓	1.08⅓	1.08⅓
	5	1900	14	F.	60	1.25	1.25	1.25
Planers:								
New York, N. Y	3	1890	1	M.	59	4.16⅔	4.16⅔	4.16⅔
	4	1891	20	M.	59	1.66⅔	2.50	2.08⅓
	5	1898	1	M.	60	2.00	2.00	2.00
	5	1899	1	M.	60	2.16⅔	2.16⅔	2.16⅔
	5	1900	1	M.	60	2.33⅓	2.33⅓	2.33⅓
Printers:								
Boston, Mass	1	1891	6	M.	60	1.33	3.00	2.11
	1	1899	6	M.	58	1.33	3.00	2.11
New York, N. Y	4	1891	19	M.	59	1.00	2.00	1.50
	5	1898	4	M.	60	1.83⅓	1.83⅓	1.83⅓
	5	1899	4	M.	60	2.00	2.00	2.00
	5	1900	4	M.	60	2.16⅔	2.16⅔	2.16⅔
Sawyers:								
Boston, Mass	1	1891	6	M.	60	1.83	3.00	2.20⅓
	1	1899	6	M.	58	1.83	3.00	2.20⅓
New York, N. Y	3	1890	12	M.	59	2.16⅔	2.33⅓	2.25
	4	1891	28	M.	59	2.00	2.50	2.12⅓
	5	1898	4	M.	60	2.33⅓	2.33⅓	2.33⅓
	5	1899	4	M.	60	2.50	2.50	2.50
	5	1900	5	M.	60	2.66⅔	2.66⅔	2.66⅔

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Conti

[Rates of wages are given for the first year for which they were obtainable and for each s year in which changes in rates occurred up to April, 1900. For example, when under any o only one date is shown, it is to be understood that there was no change in number of em rates of wages up to April, 1900. In occupations where employees are paid by the piece av earnings have been computed wherever possible.]

BRICKS.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages pe	
						Lowest.	Highest.
Engineers, stationary:							
Greensboro, N. C	1	1894	1	M.	60	$0.90	$0.90
	1	1898	1	M.	60	1.00	1.00
Kiln firemen:							
Greensboro, N. C	1	1894	8	M.	72	.75	.75
	1	1899	4	M.	72	.85	.85
Laborers:							
Greensboro, N. C	1	1894	60	M.	60	.75	.75
	1	1899	20	M.	60	.65	.75

BRUSHES.

Brush makers:							
New York, N. Y	1	1891	50	M.	59	$2.50	$4.00
	1	1892	50	M.	59	2.40	3.88
	1	1893	50	M.	59	2.30	3.78
	1	1894	50	M.	59	2.18	3.55
	1	1895	50	M.	59	2.07	3.27
	1	1896	50	M.	59	2.05	3.20
	1	1897	50	M.	59	2.15	3.33
	1	1898	50	M.	59	2.28	3.52
	1	1899	50	M.	59	2.50	4.00
	1	1891	250	F.	59	1.00	1.50
	1	1892	250	F.	59	.96¼	1.45
	1	1893	250	F.	59	.92½	1.39
	1	1894	250	F.	59	.88	1.33⅓
	1	1895	250	F.	59	.81¼	1.21
	1	1896	250	F.	59	.80	1.20
	1	1897	230	F.	59	.83⅓	1.25
	1	1898	240	F.	59	.88¼	1.32½
	1	1899	250	F.	59	1.00	1.50
	1	1900	260	F.	59	1.00	1.50
Worcester, Mass	2	1891	6	M.	59	.80	2.33⅓
	2	1899	5	M.	59	1.00	2.50
	2	1891	11	F.	58	.80	1.50
	2	1899	11	F.	58	1.00	1.50

BUILDING.

Bricklayers:							
Atlanta, Ga	1	1892	14	M.	60	$1.50	$3.00
	1	1896	18	M.	60	1.50	2.00
	1	1899	15	M.	60	2.25	2.25
Augusta, Ga	2	1890	20	M.	60	1.75	2.25
	2	1900	25	M.	60	2.00	3.00
Birmingham, Ala	6	1890	250	M.	54	3.60	3.60
	6	1893	200	M.	54	2.25	2.25
	6	1894	200	M.	54	2.70	2.70
	6	1897	250	M.	54	3.60	3.60
	6	1899	500	M.	54	4.05	4.05
Boston, Mass	8	1891	40	M.	54	3.60	3.60
	8	1899	60	M.	48	3.60	3.60
	13	1891	100	M.	54	3.78	3.78
	13	1893	120	M.	48	3.36	3.36
	13	1898	142	M.	48	3.60	3.60
Buffalo, N. Y	15	1891	48	M.	60	3.33⅓	3.33⅓
	15	1894	37	M.	54	3.24	3.24
	15	1899	28	M.	54	3.60	3.60
	17	1891	140	M.	54	3.24	3.24
	17	1899	124	M.	48	3.20	3.20
	20	1892	40	M.	54	3.24	3.24
	20	1898	50	M.	48	2.88	2.88
	20	1899	45	M.	48	3.20	3.20

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Bricklayers—Concluded.								
Burlington, N. C	22	1890	4	M.	60	$2.00	$2.25	$2.12½
	22	1897	7	M.	60	1.75	2.25	1.96½
	22	1899	14	M.	60	1.75	2.50	2.03½
Chicago, Ill	26	1891	26	M.	48	4.00	4.00	4.00
Cleveland, Ohio	a 39	1890	(b)	M.	54	3.82½	3.82½	3.82½
	a 39	1892	(b)	M.	54	4.05	4.05	4.05
	a 39	1893	(b)	M.	(b)	c .35	c .35	c .35
	a 39	1894	(b)	M.	48	2.80	3.20	(b)
	a 39	1895	(b)	M.	48	3.20	3.20	3.20
	a 39	1899	(b)	M.	48	3.60	3.60	3.60
Greensboro, N. C	40	1890	15	M.	60	1.75	2.00	1.88½
	40	1898	15	M.	60	1.75	2.50	2.00
	40	1899	15	M.	60	2.00	2.50	2.26½
	41	1890	8	M.	60	1.75	2.00	1.90½
	41	1899	8	M.	60	2.00	2.50	2.31½
	42	1890	4	M.	60	1.75	2.50	2.06½
	42	1894	10	M.	60	2.00	3.00	2.50
	42	1899	10	M.	60	2.00	3.00	2.60
	42	1900	13	M.	60	2.00	3.00	2.54
Los Angeles, Cal	43	1890	12	M.	48	4.00	4.00	4.00
	43	1892	10	M.	48	3.00	3.00	3.00
	43	1898	12	M.	48	3.50	3.50	3.50
	43	1899	10	M.	48	4.00	4.00	4.00
New York, N. Y	53	1891	70	M.	48	4.00	4.00	4.00
	53	1899	90	M.	44	4.03½	4.03½	4.03½
Passaic, N. J	56	1891	30	M.	60	3.00	3.00	3.00
	56	1896	30	M.	60	3.50	3.50	3.50
	56	1897	30	M.	53	3.09	3.09	3.09
	56	1900	8	M.	53	3.53½	3.53½	3.53½
Philadelphia, Pa	60	1891	125	M.	54	4.05	4.05	4.05
	60	1898	115	M.	48	3.00	3.00	3.00
	60	1899	120	M.	48	3.60	3.60	3.60
	60	1900	117	M.	48	4.00	4.00	4.00
San Francisco, Cal	68	1890	20	M.	54	6.00	6.00	6.00
	68	1893	25	M.	48	5.00	5.00	5.00
	73	1890	12	M.	60	6.00	6.00	6.00
	73	1893	12	M.	48	5.00	5.00	5.00
Bricklayers' helpers:								
Boston, Mass	8	1891	100	M.	54	1.75	1.75	1.75
	8	1899	150	M.	48	2.00	2.00	2.00
Los Angeles, Cal	45	1890	6	M.	54	2.50	2.50	2.50
	45	1892	5	M.	54	2.00	2.00	2.00
	45	1897	5	M.	54	1.75	1.75	1.75
Philadelphia, Pa	60	1891	110	M.	54	2.70	2.70	2.70
	60	1898	102	M.	48	2.00	2.00	2.00
	60	1899	108	M.	48	2.40	2.40	2.40
Cabinetmakers:								
New York, N. Y	49	1897	2	M.	48	2.00	2.25	2.12½
	49	1899	4	M.	48	2.25	2.50	2.37½
	49	1900	8	M.	48	2.50	2.75	2.62½
Carpenters:								
Atlanta, Ga	1	1892	15	M.	60	1.75	2.50	2.00
	1	1896	9	M.	60	1.50	2.50	1.86
	1	1899	7	M.	60	1.50	2.00	1.64½
	1	1900	20	M.	60	1.75	2.00	1.85
Augusta, Ga	3	1890	25	M.	60	1.25	2.00	1.59
	3	1900	27	M.	60	1.50	2.50	2.02
Birmingham, Ala	6	1890	450	M.	60	1.50	2.50	2.13
	6	1895	450	M.	60	1.25	2.50	2.13
	6	1898	500	M.	60	1.50	2.50	2.18½
	6	1899	800	M.	60	1.50	2.50	2.00
	6	1900	1,200	M.	54	2.00	3.00	2.50
Boston, Mass	13	1891	146	M.	54	2.25	2.40	2.25½
	13	1899	187	M.	48	2.40	2.64	2.41
	14	1891	20	M.	54	2.70	2.70	2.70
	14	1899	38	M.	48	2.50	2.50	2.50
Buffalo, N. Y	19	1891	125	M.	54	1.80	1.80	1.80
	19	1899	125	M.	54	1.80	2.02½	1.89

a Information furnished by Cleveland Builders' Exchange. b Not reported. c Per hour.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Contin

[Rates of wages are given for the first year for which they were obtainable and for each su year in which changes in rates occurred up to April, 1900. For example, when under any oc only one date is shown, it is to be understood that there was no change in number of emp rates of wages up to April, 1900. In occupations where employees are paid by the piece aver earnings have been computed wherever possible.]

BUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages pe	
						Lowest.	Highest.
Carpenters—Concluded.							
Burlington, N. C	21	1890	10	M.	60	$0.80	$1.35
	21	1899	35	M.	60	.80	2.40
	21	1900	36	M.	60	.80	2.40
	22	1890	10	M.	60	.90	1.45
	22	1899	30	M.	60	.80	1.35
	22	1900	30	M.	60	.80	1.35
Charlotte, N. C	23	1890	17	M.	60	1.50	2.00
Chicago, Ill	26	1891	24	M.	48	2.80	2.80
	26	1893	83	M.	48	2.80	3.60
	26	1894	31	M.	48	2.40	2.80
	26	1895	35	M.	48	2.80	2.80
	26	1896	23	M.	48	3.00	3.00
	26	1897	21	M.	48	2.80	2.80
	26	1898	18	M.	48	3.00	3.00
	26	1899	19	M.	48	3.40	3.40
Cleveland, Ohio	a 31	1890	(b)	M.	60	2.25	2.75
	a 31	1895	(b)	M.	54	1.80	2.47½
	a 31	1899	(b)	M.	54	2.02½	2.70
	35	1890	13	M.	60	2.25	2.75
	35	1895	38	M.	54	1.80	2.47½
	35	1899	25	M.	54	2.02½	2.70
	38	1890	19	M.	54	2.25	2.47½
	38	1891	27	M.	54	2.47½	2.70
	38	1892	21	M.	54	2.25	2.70
	38	1894	20	M.	54	1.80	2.47½
	38	1895	28	M.	54	2.02½	2.47½
	38	1899	31	M.	48	1.80	2.40
Greensboro, N. C	40	1890	50	M.	60	1.00	1.40
	40	1899	65	M.	60	1.25	1.50
	41	1890	15	M.	60	1.25	1.50
Los Angeles, Cal	43	1890	40	M.	48	3.00	3.00
	43	1892	40	M.	48	2.50	2.50
	43	1894	30	M.	48	2.25	2.25
	43	1897	60	M.	48	2.50	2.50
	43	1899	50	M.	48	3.00	3.00
New York, N. Y	49	1897	3	M.	48	2.50	3.00
	49	1900	20	M.	48	2.50	3.50
	50	1893	40	M.	54	3.00	3.00
	50	1894	50	M.	54	3.50	3.50
	50	1899	40	M.	44	2.93½	2.93½
	52	1891	8	M.	48	3.25	3.50
	52	1900	4	M.	44	3.50	4.00
Passaic, N. J	55	1894	40	M.	54	1.65	2.25
	55	1898	30	M.	53	2.00	2.50
	55	1900	30	M.	53	2.25	3.00
Philadelphia, Pa	61	1891	50	M.	54	2.50	2.70
	61	1900	25	M.	48	2.80	2.80
	63	1891	200	M.	54	2.70	3.00
	63	1900	150	M.	48	2.80	2.80
	65	1891	260	M.	54	3.00	3.00
	65	1892	275	M.	54	2.70	2.70
	65	1900	250	M.	48	2.80	2.80
Raleigh, N. C	67	1890	20	M.	60	1.25	1.75
	67	1895	17	M.	60	1.00	1.50
	67	1898	20	M.	60	1.25	1.75
San Francisco, Cal	69	1890	25	M.	48	2.50	3.25
	69	1894	20	M.	48	2.50	3.50
	69	1896	20	M.	48	2.00	3.00
	69	1899	22	M.	48	2.50	3.50
	69	1900	22	M.	48	3.00	3.50
Cornice setters:							
Philadelphia, Pa	57	1891	20	M.	54	2.75	2.75
Derrick men:							
Boston, Mass	13	1891	7	M.	54	2.25	2.25
	13	1893	11	M.	48	2.24	2.24
Engineers, stationary:							
Boston, Mass	13	1891	10	M.	54	2.66½	2.66½
	13	1899	14	M.	48	3.00	3.00

a Information furnished by Cleveland Builders' Exchange. b Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Foremen, carpenters:								
Boston, Mass	13	1891	6	M.	54	$3.33½	$3.66½	$3.50
	13	1899	7	M.	48	3.66½	4.00	3.85½
Greensboro, N. C	40	1890	6	M.	60	1.75	1.75	1.75
	40	1899	10	M.	60	2.00	2.50	2.25
	41	1890	3	M.	60	1.75	1.75	1.75
	41	1899	2	M.	60	2.00	2.00	2.00
Foremen, masons:								
Boston, Mass	13	1891	5	M.	54	4.95	4.95	4.95
	13	1893	6	M.	48	4.40	4.40	4.40
	13	1899	7	M.	48	4.80	4.80	4.80
	13	1900	8	M.	48	4.80	4.96	4.88
Gas fitters:								
Buffalo, N. Y	16	1891	20	M.	54	2.25	2.25	2.25
	16	1894	22	M.	54	2.50	2.50	2.50
Chicago, Ill	24	1892	9	M.	44	3.43½	3.43½	3.43½
	24	1894	6	M.	48	3.75	3.75	3.75
	24	1899	6	M.	44	3.66½	3.66½	3.66½
Hod carriers:								
San Francisco, Cal	73	1890	12	M.	60	3.00	3.00	3.00
	73	1893	12	M.	54	3.00	3.00	3.00
Laborers:								
Greensboro, N. C	41	1890	4	M.	(a)	.75	.75	.75
New York, N. Y	50	1893	5	M.	54	2.25	2.25	2.25
	50	1898	6	M.	44	2.20	2.20	2.20
	50	1899	6	M.	44	2.45½	2.45½	2.45½
Lathers:								
Los Angeles, Cal	44	1890	11	M.	48	b 1.25	b 1.25	b 1.25
	44	1897	8	M.	48	b 1.50	b 1.50	b 1.50
Masons, stone:								
Atlanta, Ga	1	1892	8	M.	60	2.00	3.00	2.87½
	1	1899	4	M.	60	2.00	2.25	2.12½
Boston, Mass	13	1891	16	M.	54	3.78	3.78	3.78
	13	1893	16	M.	48	3.36	3.36	3.36
	13	1898	18	M.	48	3.60	3.60	3.60
Buffalo, N. Y	15	1891	80	M.	60	3.33½	3.33½	3.33½
	15	1894	65	M.	54	3.24	3.24	3.24
	15	1899	40	M.	54	3.00	3.60	3.25
	20	1892	52	M.	54	3.24	3.24	3.24
	20	1898	65	M.	48	2.88	2.88	2.88
	20	1899	60	M.	48	3.20	3.20	3.20
Los Angeles, Cal	46	1890	27	M.	48	4.00	4.00	4.00
	46	1892	25	M.	48	3.50	3.50	3.50
	46	1895	12	M.	48	3.00	3.00	3.00
	46	1900	20	M.	48	3.50	3.50	3.50
New York, N. Y	53	1891	100	M.	48	3.20	3.20	3 20
	53	1899	120	M.	44	2.93½	2.93½	2.93½
Philadelphia, Pa	62	1891	104	M.	54	3.00	3.00	3.00
	62	1900	110	M.	48	3.00	3.00	3.00
Masons' helpers:								
Boston, Mass	13	1891	250	M.	54	2.25	2.25	2.25
	13	1893	340	M.	48	2.00	2.00	2.00
Buffalo, N. Y	15	1891	180	M.	60	1.25	1.25	1.25
	15	1894	212	M.	54	1.12½	1.12½	1.12½
	15	1899	150	M.	54	1.35	2.25	1.75
	20	1892	145	M.	54	1.44	1.44	1.44
	20	1894	160	M.	54	1.35	1.35	1.35
	20	1898	200	M.	48	1.20	1.20	1.20
New York, N. Y	53	1891	95	M.	48	2.40	2.40	2.40
	53	1899	110	M.	44	2.42	2.42	2.42
Painters:								
Atlanta, Ga	1	1898	12	M.	60	1.50	2.00	1.54
	1	1899	8	M.	60	1.75	2.00	1.84½
Birmingham, Ala	5	1892	150	M.	60	1.50	1.75	1.54
	5	1894	150	M.	60	1.50	2.00	1.58½
	5	1899	200	M.	54	2.25	2.25	2.25
	5	1900	200	M.	54	2.25	2.50	2.28

a Not reported. b Per 1,000.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Contin

[Rates of wages are given for the first year for which they were obtainable and for each su year in which changes in rates occurred up to April, 1900. For example, when under any oc only one date is shown, it is to be understood that there was no change in number of empl rates of wages up to April, 1900. In occupations where employees are paid by the piece avera earnings have been computed wherever possible.]

BUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per		A
						Lowest.	Highest.	
Painters—Concluded.								
Boston, Mass	12	1891	210	M.	60	$2.50	$2.50	
	12	1892	230	M.	54	2.50	2.50	
	12	1898	220	M.	48	2.40	2.40	
	12	1899	235	M.	48	2.56	2.56	
	13	1891	7	M.	54	2.25	2.50	
	13	1899	9	M.	48	2.50	2.75	
Buffalo, N. Y	18	1891	70	M.	54	2.25	2.25	
Chicago, Ill	27	1890	18	M.	48	2.20	2.20	
	27	1892	20	M.	48	2.80	2.80	
	27	1894	33	M.	48	2.20	2.40	
	27	1897	17	M.	48	2.60	2.60	
	27	1898	22	M.	48	2.80	2.80	
	27	1899	20	M.	48	3.00	3.00	
	27	1900	18	M.	48	3.20	3.20	
	29	1890	10	M.	48	2.00	2.40	
	29	1892	13	M.	48	2.20	2.60	
	29	1897	17	M.	48	2.40	3.20	
	29	1898	11	M.	48	2.40	3.20	
	29	1899	8	M.	48	2.40	3.00	
	29	1900	6	M.	48	3.00	3.00	
Cleveland, Ohio	34	1890	60	M.	54	2.25	2.47½	
	34	1894	39	M.	54	1.80	2.02½	
	34	1897	50	M.	48	1.80	2.00	
	34	1899	50	M.	48	2.00	2.00	
Greensboro, N. C	41	1890	4	M.	60	1.00	1.50	
	41	1899	5	M.	60	1.25	1.50	
New York, N. Y	48	1891	25	M.	47	3.50	3.50	
Passaic, N. J	54	1891	20	M.	54	2.25	2.50	
	54	1900	50	M.	53	2.50	2.50	
Philadelphia, Pa	58	1891	30	M.	60	2.50	3.00	
	58	1899	30	M.	48	2.80	2.80	
	64	1891	10	M.	54	2.25	2.70	
	64	1899	10	M.	48	2.80	2.80	
San Francisco, Cal	70	1877	6	M.	60	2.50	3.50	
	70	1880	15	M.	60	3.00	3.00	
	70	1886	20	M.	48	2.50	2.50	
	70	1888	90	M.	48	3.00	3.00	
	70	1893	90	M.	48	2.50	2.50	
	70	1899	15	M.	48	3.00	3.00	
Plasterers:								
Atlanta, Ga	1	1896	15	M.	60	1.50	2.50	
	1	1899	20	M.	60	1.50	2.50	
Birmingham, Ala	4	1891	50	M.	60	3.50	3.50	
	4	1894	35	M.	60	2.50	3.00	
	4	1899	30	M.	54	2.00	2.50	
	4	1900	37	M.	48	4.00	4.00	
Boston, Mass	8	1891	130	M.	54	3.78	3.78	
	8	1899	200	M.	48	3.60	3.60	
	13	1891	24	M.	54	3.37½	3.37½	
	13	1896	34	M.	48	3.44	3.44	
Buffalo, N. Y	15	1891	20	M.	60	3.35	3.35	
	15	1894	40	M.	54	3.00	3.00	
	15	1899	30	M.	54	3.00	3.60	
	17	1891	35	M.	54	3.00	3.00	
	17	1893	40	M.	54	3.24	3.24	
	17	1899	28	M.	48	2.88	2.88	
	20	1892	24	M.	54	3.24	3.24	
	20	1898	22	M.	48	2.88	2.88	
Chicago, Ill	25	1890	12	M.	48	3.50	3.50	
	25	1892	20	M.	48	4.00	4.00	
	25	*a* 1893	25	M.	48	5.00	6.00	
	25	*b* 1893	7	M.	48	4.00	4.00	
	25	1894	16	M.	48	3.50	3.50	
	25	1898	20	M.	48	2.50	3.00	
	25	1899	26	M.	48	3.50	4.00	
	25	1900	8	M.	48	4.00	4.00	
	28	1890	36	M.	48	3.50	3.50	
	28	1892	50	M.	48	4.00	4.00	

a For first four months. *b* For last eight months.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Plasterers—Concluded.								
Chicago, Ill.—Concluded ...	28	*a* 1893	150	M.	48	$6.00	$6.00	$6.00
	28	*b* 1893	20	M.	48	3.00	3.00	3.00
	28	1894	20	M.	48	3.50	3.50	3.50
	28	1899	18	M.	48	4.00	4.00	4.00
	30	1890	20	M.	48	3.50	3.50	3.50
	30	1892	21	M.	48	4.00	5.00	4.64⅛
	30	1893	18	M.	48	3.50	4.00	3.64
	30	1894	23	M.	48	3.50	3.50	3.50
	30	1899	7	M.	48	4.00	4.00	4.00
Cleveland, Ohio.....	*c* 37	1890	(*d*)	M.	54	3.50	3.50	3.50
	c 37	1894	(*d*)	M.	54	3.00	3.00	3.00
	c 37	1895	(*d*)	M.	54	2.50	2.50	2.50
	c 37	1897	(*d*)	M.	48	3.00	3.00	3.00
Greensboro, N. C	40	1890	20	M.	60	1.75	2.00	1.87½
	40	1897	21	M.	60	1.75	2.25	1.99
	40	1899	30	M.	60	1.75	2.50	2.12½
Los Angeles, Cal	44	1890	11	M.	48	4.00	4.00	4.00
	44	1893	15	M.	48	3.00	3.00	3.00
New York, N. Y.....	53	1891	35	M.	48	4.00	4.00	4.00
	53	1896	38	M.	44	4.00	4.00	4.00
	53	1899	40	M.	44	4.50	4.50	4.50
Philadelphia, Pa	59	1891	100	M.	48	3.20	3.20	3.20
	59	1894	100	M.	48	3.60	3.60	3.60
	59	1895	100	M.	48	3.20	3.20	3.20
San Francisco, Cal	71	1890	15	M.	48	5.00	5.00	5.00
	71	1896	10	M.	48	3.00	3.00	3.00
	71	1898	15	M.	48	4.00	4.00	4.00
	71	1900	20	M.	48	4.50	4.50	4.50
Plasterers' helpers:								
Boston, Mass.....	8	1891	100	M.	54	2.53	2.53	2.53
	8	1899	150	M.	48	2.50	2.50	2.50
	13	1891	18	M.	54	2.25	2.25	2.25
	13	1896	25	M.	48	2.00	2.00	2.00
Los Angeles, Cal	44	1890	5	M.	54	2.75	2.75	2.75
	44	1892	5	M.	54	2.50	2.50	2.50
	44	1897	5	M.	54	2.00	2.00	2.00
Philadelphia, Pa	59	1891	30	M.	48	2.50	2.50	2.50
Plumbers:								
Boston, Mass.....	10	1891	60	M.	60	4.00	4.00	4.00
	10	1895	65	M.	54	4.00	4.00	4.00
	10	1899	58	M.	48	3.75	3.75	3.75
	11	1891	8	M.	54	1.50	3.50	2.93⅛
	11	1892	9	M.	54	4.00	4.00	4.00
	11	1895	10	M.	48	3.75	3.75	3.75
Buffalo, N. Y	16	1891	17	M.	54	2.50	2.50	2.50
	16	1894	25	M.	54	3.00	3.00	3.00
	16	1899	22	M.	54	2.50	2.50	2.50
Chicago, Ill	24	1892	31	M.	44	3.43¾	4.12½	3.51⅛
	24	1893	37	M.	48	3.75	4.50	3.82⅛
	24	1894	19	M.	48	3.75	4.50	3.80⅛
	24	1895	27	M.	48	3.75	3.85	3.77⅛
	24	1896	32	M.	48	3.75	4.25	3.79
	24	1897	17	M.	48	3.75	4.00	3.80⅛
	24	1899	21	M.	44	3.66⅔	3.89⅛	3.69
Cleveland, Ohio.....	32	1893	16	M.	60	2.80	3.33⅓	3.03⅛
	32	1895	24	M.	60	2.81¼	3.33⅓	3.00⅛
	32	1899	20	M.	48	2.25	2.66⅔	2.38
	33	1892	13	M.	48	2.00	3.50	2.75
	33	1894	22	M.	48	1.75	3.50	2.47⅛
	33	1896	8	M.	48	2.00	3.50	2.62⅛
	33	1898	12	M.	48	2.00	3.50	2.66⅔
	33	1899	13	M.	48	2.25	3.50	2.98
	36	1893	14	M.	54	2.00	3.50	3.09
	36	1894	12	M.	54	2.00	3.50	2.90
	36	1895	18	M.	54	1.98	3.60	2.81
	36	1896	19	M.	54	2.25	3.15	2.67⅛
	36	1897	22	M.	48	2.00	2.80	2.29

a For first four months.
b For last eight months.
c Information furnished by Cleveland Builders' Exchange.
d Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Contin

[Rates of wages are given for the first year for which they were obtainable and for each suc year in which changes in rates occurred up to April, 1900. For example, when under any occ only one date is shown, it is to be understood that there was no change in number of empl rates of wages up to April, 1900. In occupations where employees are paid by the piece averag earnings have been computed wherever possible.]

BUILDING—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per		
						Lowest.	Highest.	A
Plumbers—Concluded.								
Cleveland, Ohio—Concl'd	36	1898	17	M.	48	$2.00	$3.00	
	36	1899	10	M.	48	2.25	3.00	
New York, N. Y	51	1900	40	M.	48	3.50	3.50	
Philadelphia, Pa	66	1891	8	M.	54	3.00	3.50	
San Francisco, Cal	74	1880	2	M.	60	4.00	4.00	
	74	1893	6	M.	48	3.50	3.50	
	74	1899	6	M.	48	4.00	4.00	
Plumbers' helpers:								
Boston, Mass	10	1891	60	M.	60	1.00	1.00	
	10	1895	65	M.	54	1.00	1.00	
	10	1899	58	M.	48	1.00	1.00	
	11	1891	8	M.	54	1.00	1.17	
	11	1892	9	M.	54	1.00	1.00	
	11	1895	10	M.	48	1.00	1.00	
New York, N. Y	51	1890	40	M.	48	.83⅓	1.25	
San Francisco, Cal	74	1880	2	M.	60	1.00	1.00	
	74	1893	6	M.	48	1.00	1.00	
Roofers, asphalt:								
San Francisco, Cal	72	1891	8	M.	54	2.25	3.00	
Roofers, slate and tile:								
Philadelphia, Pa	57	1891	10	M.	54	3.00	3.00	
Roofers, tin:								
Philadelphia, Pa	57	1891	20	M.	54	2.50	2.50	
Steam fitters:								
Boston, Mass	7	1891	14	M.	60	2.50	3.00	
	7	1894	13	M.	54	2.50	3.00	
	7	1897	14	M.	48	3.00	3.50	
Buffalo, N. Y	15	1891	10	M.	54	2.50	2.50	
	15	1894	13	M.	54	3.00	3.00	
	15	1899	12	M.	54	2.50	2.50	
Cleveland, Ohio	36	1893	8	M.	54	2.00	4.00	
	36	1894	9	M.	54	2.10	3.60	
	36	1895	10	M.	54	2.07	3.27	
	36	1896	11	M.	54	2.25	3.27	
	36	1897	8	M.	48	2.00	2.90½	
	36	1899	11	M.	48	3.00	3.00	
New York, N. Y	47	1891	36	M.	48	3.50	3.50	
	47	1897	38	M.	48	3.75	3.75	
Steam fitters' helpers:								
Boston, Mass	7	1891	14	M.	60	1.75	1.75	
	7	1894	13	M.	54	1.75	1.75	
	7	1897	14	M.	48	1.75	1.75	
	7	1900	13	M.	48	2.00	2.00	
New York, N. Y	47	1891	36	M.	48	2.00	2.00	
	47	1897	38	M.	48	2.15	2.15	
Structural iron workers:								
Boston, Mass	9	1891	16	M.	53½	2.25	3.15	
	9	1895	16	M.	51	2.12½	2.97½	
	13	1898	28	M.	48	2.28	2.28	
Philadelphia, Pa	65	1891	70	M.	54	2.50	2.50	
	65	1900	75	M.	48	2.50	2.50	
Structural iron workers' helpers:								
Boston, Mass	9	1891	14	M.	53½	1.80	2.07	
	9	1895	14	M.	51	1.70	1.95½	
Teamsters:								
Buffalo, N. Y	19	1891	6	M.	60	1.50	1.50	

BUTTONS, PEARL.

Backers:							
New York, N. Y	2	1896	10	M.	59	$1.33⅓	$2.16⅔
Carders:							
New York, N. Y	1	1896	45	F.	59	.91⅔	1.16⅔
Cutters:							
New York, N. Y	1	1896	60	M.	59	1.56⅔	2.16⅔
	1	1899	90	M.	59	1.66⅔	2.33⅓
	2	1896	10	M.	59	1.66⅔	2.50

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUTTONS, PEARL—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Drillers:								
New York, N. Y.	2	1896	20	F.	59	$0.83½	$1.33½	$1.04
Finishers, blank:								
New York, N. Y.	1	1896	47	F.	59	1.00	1.16½	1.08½
	1	1898	47	F.	59	.83½	1.00	.91½
	1	1899	47	F.	59	1.00	1.16½	1.08½
Sorters:								
New York, N. Y.	1	1896	8	F.	59	1.08½	1.33½	1.20
Turners:								
New York, N. Y.	2	1896	10	(a)	59	1.33½	2.00	1.66½

CARPETS.

Dyers:								
Philadelphia, Pa.	4	1891	89	M.	60	$0.22	$2.11	$1.43½
	4	1892	86	M.	60	.37½	2.20	1.49½
	4	1893	93	M.	60	.21	1.25	.44½
	4	1894	92	M.	60	.20½	1.49	.94
	4	1895	83	M.	60	.36	2.19½	1.34½
	4	1896	81	M.	60	.21	1.72	.62
	4	1897	59	M.	60	.54½	2.32	1.53
	4	1898	55	M.	60	.50	2.17½	1.52½
	4	1899	54	M.	60	.49	2.32	1.74½
	4	1900	62	M.	60	.52½	2.25½	1.69
Fillers:								
New York, N. Y.	1	1891	20	F.	60	.73½	.98½	.89½
	1	1898	20	F.	60	.73½	.97	.89
	1	1899	20	F.	60	.77	1.01½	.93½
	1	1900	20	F.	60	.81	1.07½	.99
Foremen, dyers:								
Philadelphia, Pa.	4	1891	3	M.	60	2.33½	6.66½	4.11
	4	1892	3	M.	60	2.50	6.66½	4.16½
	4	1893	2	M.	60	3.33½	6.66½	5.00
	4	1895	4	M.	60	2.50	6.66½	3.75
	4	1896	2	M.	60	3.33½	6.66½	5.00
	4	1897	4	M.	60	2.50	6.66½	3.75
Loom fixers:								
New York, N. Y.	1	1891	15	M.	60	1.66½	2.73½	2.43½
	1	1899	15	M.	60	1.75	2.85½	2.54
	1	1900	15	M.	60	1.83½	3.00	2.66½
Weavers:								
New York, N. Y.	1	1891	78	F.	60	.90	1.45½	1.19
	1	1898	78	F.	60	.89½	1.46	1.19½
	1	1899	78	F.	60	.94	1.53	1.24½
	1	1900	86	F.	60	.98½	1.76	1.33
	1	1891	12	(b)	60	1.71½	2.13½	1.86½
	1	1898	12	(b)	60	1.71	2.10½	1.85½
	1	1899	12	(b)	60	1.79	2.20½	1.94½
	1	1900	10	(b)	60	1.88	2.31½	2.04
Philadelphia, Pa.	2	1891	7	(a)	60	1.00½	1.58½	1.39½
	2	1892	12	(a)	60	.97½	2.23	1.46
	2	1893	9	(a)	60	.98½	1.63	1.40½
	2	1894	7	(a)	60	.43½	1.26½	.78½
	2	1895	7	(a)	60	.78½	1.61	1.31
	2	1896	8	(a)	60	.85	1.80	1.22
	2	1897	10	(a)	60	.95	1.81½	1.42½
	2	1898	27	(a)	60	.92½	1.80½	1.38½
	2	1899	25	(a)	60	1.04½	2.20½	1.45½
	2	1900	27	(a)	60	.93½	1.84	1.47
	3	1891	16	(a)	60	.50½	1.91	1.23
	3	1892	21	(a)	60	.63	1.94½	1.29
	3	1893	27	(a)	60	.49	2.18½	1.80½
	3	1894	29	(a)	60	.33½	1.99½	1.39½
	3	1895	29	(a)	60	.49½	2.14½	1.39
	3	1896	29	(a)	60	1.31	2.29	1.85
	3	1897	29	(a)	60	1.23	2.56½	1.86
	3	1898	29	(a)	60	1.19	2.70½	2.17½
	3	1899	29	(a)	60	1.39½	2.80	1.96½
	3	1900	47	(a)	60	1.32	2.79	2.04

a Both sexes. b Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continu

[Rates of wages are given for the first year for which they were obtainable and for each succ year in which changes in rates occurred up to April, 1900. For example, when under any occ only one date is shown, it is to be understood that there was no change in number of emplo rates of wages up to April, 1900. In occupations where employees are paid by the piece averag earnings have been computed wherever possible.]

CARPETS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per		
						Lowest.	Highest.	A
Winders:								
Philadelphia, Pa	2	1891	3	F.	60	$0.69½	$0.78	
	2	1892	3	F.	60	1.25½	1.33½	
	2	1893	3	F.	60	.82½	1.02½	
	2	1894	2	F.	60	.97	1.02½	
	2	1895	2	F.	60	.57	1.19½	
	2	1896	2	F.	60	.78½	1.02	
	2	1897	2	F.	60	1.19½	1.49	
	2	1898	12	F.	60	.61½	1.39½	
	2	1899	10	F.	60	.84	1.38½	
	2	1900	12	F.	60	.73½	1.90½	
	3	1891	5	F.	60	1.25½	1.84½	
	3	1892	7	F.	60	.89	1.74	
	3	1893	8	F.	60	1.14½	2.00	
	3	1894	10	F.	60	.37	1.34½	
	3	1895	10	F.	60	.91	1.21½	
	3	1896	10	F.	60	.22	.88½	
	3	1897	10	F.	60	.97	1.50	
	3	1898	10	F.	60	.94½	1.77	
	3	1899	10	F.	60	1.11	1.66½	
	3	1900	16	F.	60	1.07½	1.69½	
Winders, cop:								
New York, N. Y	1	1891	6	F.	60	.74	1.09	
	1	1898	6	F.	60	.74½	1.07½	
	1	1899	6	F.	60	.78	1.13½	
	1	1900	6	F.	60	.82½	1.19½	
Winders, cotton:								
New York, N. Y	1	1891	4	F.	60	.99½	1.31½	
	1	1898	4	F.	60	.99	1.32	
	1	1899	4	F.	60	1.04½	1.39½	
	1	1900	4	F.	60	1.10	1.46½	

CARRIAGES AND WAGONS.

Blacksmiths:							
Atlanta, Ga	1	1890	4	M.	60	$2.25	$3.00
	1	1893	2	M.	60	2.00	2.00
	1	1897	4	M.	60	2.00	2.50
Birmingham, Ala	2	1890	2	M.	60	2.50	3.00
	2	1894	1	M.	60	2.50	2.50
	2	1899	3	M.	60	2.00	2.50
Boston, Mass	3	1891	2	M.	58	3.00	3.00
	3	1894	2	M.	53	3.00	3.00
Worcester, Mass	4	1891	11	M.	59	1.00	3.00
	4	1899	17	M.	59	1.00	4.66⅔
	4	1900	19	M.	59	1.75	4.66⅔
Blacksmiths' helpers:							
Atlanta, Ga	1	1890	7	M.	60	.83⅓	1.33⅓
	1	1893	4	M.	60	1.00	1.00
	1	1897	7	M.	60	.83⅓	1.33⅓
Boston, Mass	3	1891	2	M.	58	2.25	2.25
	3	1894	2	M.	53	2.25	2.25
Painters:							
Birmingham, Ala	2	1890	3	M.	60	1.50	3.00
Boston, Mass	3	1891	7	M.	58	2.25	3.00
	3	1894	7	M.	53	2.25	3.00
Smoothers, wood:							
Boston, Mass	3	1891	5	M.	58	2.00	2.00
	3	1894	5	M.	53	2.00	2.00
Trimmers:							
Boston, Mass	3	1891	4	M.	58	2.50	3.00
	3	1894	4	M.	53	2.50	3.00
Woodworkers:							
Boston, Mass	3	1891	2	M.	58	3.00	3.00
	3	1894	2	M.	53	3.00	3.00

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

CIGARS.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Cigar makers:								
Boston, Mass	1	1891	33	M.	(a)	$1.73½	$9.05	$2.79
	1	1892	45	M.	(a)	1.86½	13.20½	2.61½
	1	1893	46	M.	(a)	1.71½	5.12½	2.63½
	1	1894	56	M.	(a)	1.70	5.09½	3.13½
	1	1895	63	M.	(a)	1.75	4.94	2.33½
	1	1896	75	M.	(a)	1.75	4.75	2.66
	1	1897	85	M.	(a)	1.62½	5.00	2.78
	1	1898	78	M.	(a)	1.50	4.99½	2.74½
	1	1899	86	M.	(a)	1.25	5.75	2.96
	1	1900	111	M.	(a)	1.37½	5.25	3.30½
	2	1891	54	M.	(a)	2.00	5.00	3.00
	2	1899	323	M.	(a)	2.00	5.00	3.12½
	2	1900	323	M.	(a)	2.00	5.00	3.16
Strippers:								
Boston, Mass	1	1893	12	F.	54	.88½	1.38½	1.05½
	1	1894	19	F.	54	.69	1.16½	.92½
	1	1895	18	F.	54	.48½	1.16½	.90
	1	1896	20	F.	54	.83½	1.36½	1.07½
	1	1897	22	F.	54	.64½	1.11	.91
	1	1898	19	F.	54	.63½	1.16½	.92½
	1	1899	27	F.	54	.66	1.50	.92½
	1	1900	40	F.	54	.54½	1.50	.90
Strippers, binder:								
Boston, Mass	2	1891	5	F.	53	.91½	.91½	.91½
	2	1899	30	F.	53	.83½	1.00	.93
	2	1900	30	F.	47	1.00	1.00	1.00
Strippers, filler:								
Boston, Mass	2	1891	5	F.	53	.58½	1.25	.78½
	2	1899	20	F.	53	.58	1.28	.79
	2	1900	20	F.	47	.59	1.26½	.79
Strippers, wrapper:								
Boston, Mass	2	1891	5	F.	53	1.16½	1.33½	1.25

CLOTHING.

Cutters:								
Atlanta, Ga	1	1892	1	M.	60	$2.50	$2.50	$2.50
	1	1896	4	M.	60	1.66½	3.00	2.46½
	1	1899	3	M.	60	1.75	2.50	2.00
Charlotte, N. C	2	1894	3	M.	60	.85	1.66½	1.12
	2	1899	3	M.	60	1.10	2.25	1.61½
	2	1900	3	M.	60	1.10	3.00	1.91½
Pressers:								
Atlanta, Ga	1	1892	2	M.	60	.66½	2.50	1.58½
	1	1896	6	M.	60	1.00	1.00	1.00
Charlotte, N. C	2	1894	4	M.	60	.75	1.15	.95
	2	1899	7	M.	60	.86½	1.30	1.08½
Sewing-machine operators:								
Atlanta, Ga	1	1892	40	F.	60	.35	.75	.54
	1	1896	75	F.	60	.35	1.00	.65
	1	1899	150	F.	60	.40	1.12½	.72½
Charlotte, N. C	2	1894	16	F.	60	.68	.92	.80½
	2	1899	24	F.	60	.74	1.52	.97
	3	1892	40	F.	60	.37½	1.00	.58
	3	1899	45	F.	60	.40	1.15	.65½

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Contin

[Rates of wages are given for the first year for which they were obtainable and for each suc year in which changes in rates occurred up to April, 1900. For example, when under any occ only one date is shown, it is to be understood that there was no change in number of empl rates of wages up to April, 1900. In occupations where employees are paid by the piece avera earnings have been computed wherever possible.]

COOPERAGE.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per		A
						Lowest.	Highest.	
Coopers:								
Boston, Mass.	1	1891	45	M.	59	$2.50	$5.83⅓	
	1	1899	48	M.	59	2.50	5.83⅓	
Niagara Falls, N. Y.	2	1893	35	M.	57	1.00	2.00	
	2	1898	42	M.	48	.83⅓	1.66⅔	
	2	1899	42	M.	48	1.00	1.83⅓	
	2	1900	42	M.	48	1.04	1.91⅔	

COTTON GOODS.

Beamers:								
Concord, N. C	8	1890	5	M.	69	$1.30	$1.90	
	8	1899	5	M.	69	1.30	1.90	
Bleachers:								
Concord, N. C	8	1890	46	M.	69	.75	1.25	
Carders:								
Augusta, Ga.	3	1890	25	M.	66	.75	1.00	
	3	1899	26	M.	66	.70	.90	
	3	1900	28	M.	66	.75	.90	
	4	1890	22	M.	66	.81	.90	
	4	1899	26	M.	66	.75	.80	
	4	1900	26	M.	66	.80	.85	
Burlington, N. C	6	1895	2	M.	66	.75	.75	
Concord, N. C	8	1890	12	M.	69	.75	.75	
Greensboro, N. C	11	1897	16	M.	66	.50	1.00	
Pelzer, S. C	13	1890	208	(a)	66	.40	1.10	
	13	1891	215	(a)	66	.35	1.15	
	13	1892	212	(a)	66	.40	1.10	
	13	1893	209	(a)	66	.35	1.00	
	13	1894	204	(a)	66	.35	1.05	
	13	1895	215	(a)	66	.40	1.05	
	13	1896	318	(a)	66	.40	1.00	
	13	1897	345	(a)	66	.40	1.30	
	13	1898	358	(a)	66	.40	1.30	
	13	1899	358	(a)	66	.40	1.35	
Raleigh, N. C.	14	1890	4	M.	66	.75	.83⅓	
	14	1894	4	M.	66	.67½	.73⅓	
	14	1896	7	M.	66	.75	.83⅓	
	14	1899	22	M.	(b)	.75	1.00	
Card grinders:								
Atlanta, Ga	1	1890	4	M.	66	1.25	1.40	
Augusta, Ga.	3	1890	6	M.	66	1.30	1.30	
	3	1899	6	M.	66	1.25	1.25	
	3	1900	5	M.	66	1.35	1.40	
	4	1890	11	M.	66	1.30	1.30	
	4	1899	10	M.	66	1.00	1.30	
	4	1900	10	M.	66	1.05	1.35	
Concord, N. C	8	1890	8	M.	69	1.00	1.25	
Doffers:								
Atlanta, Ga	1	1890	24	M.	66	.40	.50	
Augusta, Ga.	3	1890	29	M.	66	.35	.40	
	3	1899	28	M.	66	.30	.40	
	3	1900	29	M.	66	.35	.45	
	4	1890	36	M.	66	.35	.50	
	4	1899	40	M.	66	.30	.45	
	4	1900	40	M.	66	.35	.50	
Ramseur, N. C.	15	1890	11	M.	69	.30	.45	
	15	1899	14	M.	69	.25	.40	
	15	1900	15	M.	69	.25	.40	
Dyers:								
Burlington, N. C	5	1890	2	M.	66	.75	.75	
Engineers, stationary:								
Charlotte, N. C	7	1890	2	M.	66	1.25	2.00	
Concord, N. C	8	1890	4	M.	69	1.00	1.50	
Greensboro, N. C	11	1897	1	M.	66	2.00	2.00	
	11	1899	2	M.	66	2.00	2.50	

a Not reported. b 11 worked 60 and 11 worked 66 hours per week.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

COTTON GOODS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Engineers, stationary—Concl'd.								
Raleigh, N. C.	14	1890	1	M.	66	$2.25	$2.25	$2.25
	14	1894	1	M.	66	2.02½	2.02½	2.02½
	14	1896	1	M.	66	3.00	3.00	3.00
	14	1899	2	M.	(a)	2.66½	3.00	2.83½
Foremen, dyers:								
Burlington, N. C	5	1890	1	M.	66	1.25	1.25	1.25
	5	1893	1	M.	66	1.35	1.35	1.35
	5	1899	1	M.	66	1.50	1.50	1.50
Loom fixers:								
Augusta, Ga.	3	1890	9	M.	66	1.50	1.50	1.50
	3	1899	9	M.	66	1.40	1.45	1.44
	3	1900	9	M.	66	1.50	1.55	1.54
	4	1890	6	M.	66	.75	1.50	1.37½
	4	1899	5	M.	66	.90	1.50	1.38
	4	1900	5	M.	66	1.50	1.50	1.50
Charlotte, N. C	7	1890	4	M.	66	1.25	1.40	1.36½
Concord, N. C	8	1890	12	M.	69	1.50	1.50	1.50
Franklinsville, N. C.	10	1890	2	M.	69	.75	1.12½	.93½
	10	1894	2	M.	69	.75	1.00	.87½
	10	1899	3	M.	69	1.00	1.00	1.00
Greensboro, N. C	11	1897	3	M.	66	1.50	1.50	1.50
Greenville, S. C.	12	1890	3	M.	66	1.50	1.75	1.58½
	12	1899	5	M.	66	1.75	1.75	1.75
Ramseur, N. C.	15	1890	4	M.	69	.75	1.25	.97½
	15	1899	4	M.	69	.95	1.25	1.03½
Overseers, carding department:								
Augusta, Ga.	3	1890	1	M.	66	4.00	4.00	4.00
	4	1890	1	M.	66	4.00	4.00	4.00
	4	1899	1	M.	66	3.00	3.00	3.00
Greensboro, N. C	11	1897	1	M.	66	2.00	2.00	2.00
Overseers, spinning department:								
Atlanta, Ga	2	1890	1	M.	66	2.50	2.50	2.50
	2	1896	3	M.	66	3.00	3.00	3.00
Augusta, Ga.	3	1890	1	M.	66	3.50	3.50	3.50
	4	1890	1	M.	66	4.00	4.00	4.00
Charlotte, N. C	7	1890	2	M.	66	1.25	2.75	2.00
Concord, N. C	8	1890	2	M.	69	1.50	3.00	2.25
	8	1899	3	M.	69	1.50	3.50	2.16½
Franklinsville, N. C.	10	1890	1	M.	69	1.12½	1.12½	1.12½
	10	1899	1	M.	69	1.25	1.25	1.25
Ramseur, N. C.	15	1890	1	M.	69	2.25	2.25	2.25
	15	1899	1	M.	69	2.50	2.50	2.50
Overseers, weaving department:								
Atlanta, Ga	2	1890	1	M.	66	2.50	2.50	2.50
	2	1896	2	M.	66	3.00	3.00	3.00
Augusta, Ga.	3	1890	1	M.	66	3.50	3.50	3.50
	4	1890	1	M.	66	3.50	3.50	3.50
	4	1899	1	M.	66	2.75	2.75	2.75
	4	1900	1	M.	66	3.00	3.00	3.00
Charlotte, N. C	7	1890	1	M.	66	2.66½	2.66½	2.66½
Concord, N. C	8	1890	3	M.	69	2.50	3.00	2.75
Franklinsville, N. C.	10	1890	1	M.	69	1.50	1.50	1.50
	10	1894	1	M.	69	1.25	1.25	1.25
	10	1899	1	M.	69	1.75	1.75	1.75
Greensboro, N. C	11	1897	1	M.	66	2.00	2.00	2.00
Ramseur, N. C.	15	1890	1	M.	69	2.25	2.25	2.25
	15	1899	1	M.	69	2.75	2.75	2.75
Picker tenders:								
Concord, N. C	8	1890	15	M.	69	.70	.70	.70
Speeder tenders:								
Atlanta, Ga	1	1890	12	F.	66	.70	.70	.70
Burlington, N. C	6	1895	4	F.	66	.70	.70	.70
Concord, N. C	8	1890	15	F.	69	.65	.90	.73½
Raleigh, N. C.	14	1890	7	F.	66	.58½	1.00	.64½
	14	1894	7	F.	66	.52½	.90	.58
	14	1896	11	F.	66	.96	.96	.96
	14	1899	22	F.	(b)	.96	.96	.96

a 1 worked 60 and 1 worked 66 hours per week.
b 11 worked 60 and 11 worked 66 hours per week.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Conti

[Rates of wages are given for the first year for which they were obtainable and for each su year in which changes in rates occurred up to April, 1900. For example, when under any oc only one date is shown, it is to be understood that there was no change in number of emp rates of wages up to April, 1900. In occupations where employees are paid by the piece aver earnings have been computed wherever possible.]

COTTON GOODS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per	
						Lowest.	Highest.
Spinners:							
Atlanta, Ga	1	1890	47	F.	66	$0.30½	$0.75
	1	1899	49	F.	66	.30½	.76
	1	1900	51	F.	66	.30½	.76
	2	1890	43	F.	66	.23	.55
	2	1896	146	F.	66	.21	.66
	2	1899	144	F.	66	.21	.66
Augusta, Ga	3	1890	77	F.	66	.40	.80
	3	1899	83	F.	66	.30	.60
	3	1900	79	F.	66	.33	.77
	4	1890	74	F.	66	.35	.80
	4	1899	79	F.	66	.30	.80
	4	1900	79	F.	66	.33	.88
Burlington, N. C	6	1895	8	F.	66	.50	.50
Charlotte, N. C	7	1890	25	F.	66	.40	.60
Concord, N. C.	8	1890	96	F.	69	.40	.80
	8	1899	100	F.	69	.50	1.00
Franklinville, N. C	10	1890	22	F.	69	.40	.40
	10	1898	23	F.	69	.40	.50
	10	1899	23	F.	69	.40	.60
	10	1900	28	F.	69	.30	.60
Greensboro, N. C	11	1897	21	(a)	66	.30	.50
Greenville, S. C	12	1891	30	F.	66	.32	.48
	12	1896	31	F.	66	.36	.54
	12	1899	36	F.	66	.36	.54
Pelzer, S. C	13	1890	238	(a)	66	.18	.49
	13	1891	365	(a)	66	.17	.42½
	13	1892	378	(a)	66	.17	.42½
	13	1893	315	(a)	66	.17	.47½
	13	1894	332	(a)	66	.17	.47½
	13	1895	349	(a)	66	.19	.57
	13	1896	564	(a)	66	.22	.66
	13	1897	604	(a)	66	.20	.66
Raleigh, N. C	14	1890	6	M.	66	1.75	1.75
	14	1894	6	M.	66	1.57½	1.57½
	14	1896	12	M.	66	1.67	1.67
	14	1899	24	M.	(b)	1.67	1.67
Ramseur, N. C	15	1890	52	F.	69	.25	.50
	15	1899	64	F.	69	.25	.50
Spinners, frame:							
Fall River, Mass	9	1893	33	F.	58	.64	1.06½
	9	1894	29	F.	58	.57½	.95½
	9	1895	29	F.	58	.64	1.06½
	9	1898	24	(c)	58	.56½	.94½
	9	1899	22	(d)	58	.64	1.06½
	9	1900	25	(e)	58	.70	1.17
Spinners, mule:							
Fall River, Mass	9	1893	21	M.	58	1.58½	1.89
	9	1894	21	M.	58	1.50	1.70
	9	1895	22	M.	58	1.59	1.88½
	9	1898	21	M.	58	1.46	1.60½
	9	1899	17	M.	58	1.67	1.81½
	9	1900	15	M.	58	1.80½	1.92½
Spoolers:							
Charlotte, N. C	7	1890	10	F.	66	.50	.65
Weavers:							
Atlanta, Ga	1	1890	29	M.	66	.52	1.10
	1	1899	29	M.	66	.52	1.10
	1	1900	29	M.	66	.52	1.10
	1	1890	39	F.	66	.51	1.00
	1	1899	40	F.	66	.51	1.00
	1	1900	40	F.	66	.51	1.00
	2	1890	33	M.	66	.50	.90
	2	1896	140	M.	66	.50	1.20
	2	1899	125	M.	66	.50	1.20
	2	1900	133	M.	66	.50	1.20
	2	1890	52	F.	66	.50	.90

a Not reported.
b 12 worked 60 and 12 worked 66 hours per week.
c 2 males, 22 females.
d 9 males, 13 females.
e 4 males, 21 females.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

COTTON GOODS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Weavers—Concluded.								
Atlanta, Ga.—Concluded ...	2	1896	149	F.	66	$0.50	$1.20	$0.80½
	2	1899	152	F.	66	.50	1.20	.83
Augusta, Ga.	3	1890	35	M.	66	.50	1.20	.95½
	3	1899	64	M.	66	.50	1.10	.87½
	3	1900	65	M.	66	.65	1.20	.92½
	3	1890	58	F.	66	.55	1.25	.87
	3	1899	111	F.	66	.55	1.20	.85½
	3	1900	113	F.	66	.55	1.20	.87½
	4	1890	10	M.	66	.65	1.50	.99½
	4	1899	17	M.	66	.70	1.30	.95½
	4	1900	17	M.	66	.75	1.30	1.00
	4	1890	87	F.	66	.56	1.35	.93½
	4	1899	74	F.	66	.50	1.25	.81½
	4	1900	74	F.	66	.53	1.35	.88
Burlington, N. C	5	1890	7	M.	66	.66½	.83½	.71
	5	1893	15	M.	66	.93½	1.03½	.94½
	5	1899	21	M.	66	.93½	1.16	.97½
	5	1890	15	F.	66	.66½	.85	.72½
	5	1893	22	F.	66	.75	1.00	.91
	5	1899	11	F.	66	.75	.98½	.91
	6	1895	6	M.	66	1.00	1.00	1.00
	6	1895	39	F.	66	.75	1.25	1.00½
Charlotte, N. C	7	1890	21	M.	66	.65	1.25	.80
	7	1899	26	M.	66	.65	1.25	.84
	7	1890	19	F.	66	.55	1.00	.71½
	7	1899	24	F.	66	.56	1.00	.74
Concord, N. C	8	1890	81	M.	69	.75	1.45	.96
	8	1899	89	M.	69	.75	1.45	.95
	8	1900	91	M.	69	.76	1.45	.96
	8	1890	41	F.	69	.72	1.15	.83½
	8	1899	48	F.	69	.72	1.15	.84½
Fall River, Mass	9	1893	220	(a)	58	.59	1.68	1.30½
	9	1894	197	(a)	58	.53½	1.46½	1.10½
	9	1895	189	(a)	58	.55½	1.77½	1.30
	9	1898	259	(a)	58	.42½	1.54½	1.14
	9	1899	237	(a)	58	.48	1.68	1.22½
	9	1900	258	(a)	58	.58½	1.81½	1.37
Franklinsville, N. C	10	1890	16	F.	69	.55	.70	.57
	10	1894	14	F.	69	.51	.51	.51
	10	1899	27	F.	69	.55	.87½	.68
	10	1900	29	F.	69	.55	.87½	.68½
Greensboro, N. C	11	1897	28	(b)	66	.75	1.16½	.93
	11	1900	55	(b)	66	.75	1.17½	.93
Greenville, S. C.	12	1890	34	M.	66	.80	1.75	1.00½
	12	1899	44	M.	66	.80	1.75	1.07
	12	1900	42	M.	66	.80	2.00	1.07
	12	1890	18	F.	66	.80	1.00	.84
	12	1899	22	F.	66	.80	1.00	.86
Pelzer, S. C.	13	1890	394	(b)	66	.40	1.10	.78
	13	1891	446	(b)	66	.40	1.20	.78
	13	1892	494	(b)	66	.40	1.05	.75
	13	1893	473	(b)	66	.40	1.00	.73
	13	1894	489	(b)	66	.30	.85	.63
	13	1895	488	(b)	66	.35	.95	.65
	13	1896	868	(b)	66	.45	1.00	.81
	13	1897	749	(b)	66	.40	1.20	.88
	13	1898	694	(b)	66	.40	1.20	.84
	13	1899	689	(b)	66	.40	1.20	.87
Ramseur, N. C	15	1890	9	M.	69	.45½	.45½	.45½
	15	1898	6	M.	69	.48	.48	.48
	15	1899	3	M.	69	.55	.55	.55
	15	1890	49	F.	69	.34	.51	.43½
	15	1898	44	F.	69	.36	.65	.48½
	15	1899	61	F.	69	.38	.70	.55
	15	1900	64	F.	69	.38	.70	.56

a Both sexes. b Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continu

[Rates of wages are given for the first year for which they were obtainable and for each succ
year in which changes in rates occurred up to April, 1900. For example, when under any occu
only one date is shown, it is to be understood that there was no change in number of emplo
rates of wages up to April, 1900. In occupations where employees are paid by the piece averag
earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per d		
						Lowest.	Highest.	Av
Blacksmiths:								
Atlanta, Ga	1	1890	2	M.	60	$3.00	$3.25	
	1	1899	2	M.	60	2.70	3.50	
	1	1900	2	M.	60	3.00	3.50	
Birmingham, Ala	4	1890	1	M.	60	2.75	2.75	
	4	1893	1	M.	60	2.50	2.50	
	4	1896	2	M.	60	2.75	2.75	
	4	1899	3	M.	60	2.00	3.00	
	4	1900	3	M.	60	2.25	3.00	
Boston, Mass	6	1891	11	M.	60	2.00	2.50	
	6	1897	12	M.	54	2.50	3.50	
Buffalo, N. Y	8	1893	6	M.	60	1.80	3.50	
	8	1894	5	M.	60	2.00	3.50	
	8	1898	6	M.	60	2.00	3.50	
	8	1899	6	M.	60	2.00	3.00	
	8	1900	6	M.	60	2.20	3.00	
	10	1891	2	M.	60	2.00	2.25	
	10	1893	2	M.	60	2.25	2.25	
	10	1894	3	M.	60	1.75	2.15	
	10	1896	2	M.	54	1.57½	1.89	
	10	1897	3	M.	54	1.80	2.02½	
	10	1898	2	M.	54	1.89	2.02½	
	10	1900	3	M.	54	1.80	2.02½	
Cleveland, Ohio	13	1890	2	M.	60	2.50	2.50	
	13	1891	2	M.	60	2.25	2.50	
	13	1894	2	M.	60	2.00	2.00	
	13	1896	2	M.	60	2.25	2.25	
	13	1897	2	M.	60	2.37½	2.37½	
	13	1898	2	M.	60	2.50	2.50	
	14	1890	11	M.	60	1.75	2.70	
	14	1891	11	M.	60	1.75	2.85	
	14	1892	9	M.	60	1.80	2.85	
	14	1893	7	M.	60	2.00	3.00	
	14	1894	5	M.	60	1.60	2.10	
	14	1895	3	M.	60	1.60	2.00	
	14	1896	2	M.	60	1.80	3.25	
	14	1897	3	M.	60	1.80	3.25	
	14	1899	5	M.	60	1.80	3.50	
	14	1900	5	M.	60	2.00	3.50	
Blacksmiths' helpers:								
Buffalo, N. Y	8	1893	9	M.	60	1.50	1.70	
	8	1894	8	M.	60	1.50	1.80	
	8	1895	6	M.	60	1.50	1.80	
	8	1899	4	M.	60	1.40	1.50	
	10	1891	2	M.	60	1.40	1.40	
	10	1892	3	M.	60	1.40	1.50	
	10	1894	3	M.	60	1.30	1.40	
	10	1896	2	M.	54	1.26	1.26	
	10	1897	3	M.	54	1.26	1.35	
	10	1898	2	M.	54	1.35	1.35	
Cleveland, Ohio	13	1890	2	M.	60	1.62½	1.62½	
	13	1891	2	M.	60	1.50	1.50	
	13	1896	2	M.	60	1.60	1.60	
	13	1898	2	M.	60	1.75	1.75	
	14	1890	17	M.	60	1.45	1.65	
	14	1891	15	M.	60	1.45	1.50	
	14	1892	17	M.	60	1.40	1.50	
	14	1893	12	M.	60	1.45	1.50	
	14	1894	6	M.	60	1.15	1.35	
	14	1895	2	M.	60	1.15	1.15	
	14	1896	6	M.	60	1.30	2.20	
	14	1897	4	M.	60	1.30	1.50	
	14	1898	5	M.	60	1.40	1.50	
	14	1899	5	M.	60	1.50	1.50	
	14	1900	7	M.	60	1.65	1.65	
Boiler makers:								
Augusta, Ga	2	1890	3	M.	59	1.50	2.33½	
	2	1899	9	M.	59	1.60	2.50	
	2	1900	10	M.	59	1.60	2.75	

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Boiler makers—Concluded.								
Birmingham, Ala	4	1890	4	M.	60	$2.00	$2.75	$2.37½
	4	1893	4	M.	60	2.00	2.50	2.25
	4	1896	4	M.	60	2.50	2.75	2.62½
	4	1899	4	M.	60	2.75	3.00	2.87½
Buffalo, N. Y	7	1891	17	M.	60	1.90	3.00	2.22½
	7	1892	47	M.	60	1.85	3.00	2.23½
	7	1893	32	M.	60	1.75	2.50	2.16
	7	1894	40	M.	60	1.75	2.50	2.02½
	7	1895	37	M.	60	1.75	2.70	2.04½
	7	1896	44	M.	60	1.85	2.70	2.09
	7	1897	25	M.	54	1.80	2.43	2.02
	7	1898	16	M.	54	1.98	2.47½	2.24½
	7	1899	15	M.	54	1.80	2.47½	2.18½
	7	1900	19	M.	54	1.98	2.52	2.47½
	10	1890	31	M.	60	2.25	3.00	2.47½
	10	1891	34	M.	60	2.25	2.75	2.45½
	10	1893	47	M.	60	2.25	3.00	2.46½
	10	1896	27	M.	54	2.02½	2.25	2.09
	10	1897	17	M.	54	2.25	2.47½	2.31½
	10	1898	23	M.	54	2.02½	2.47½	2.29
	10	1899	25	M.	54	2.02½	2.70	2.30½
	10	1900	19	M.	54	2.52	2.70	2.56½
Cleveland, Ohio	13	1890	14	M.	60	2.00	2.50	2.22½
	13	1891	14	M.	60	1.75	2.50	2.14½
	13	1892	12	M.	60	1.87½	2.50	2.27
	13	1894	9	M.	60	1.75	2.50	2.19½
	13	1895	12	M.	60	1.75	2.25	2.00
	13	1896	12	M.	60	1.75	2.37½	2.18½
	13	1897	11	M.	60	2.00	2.50	2.41
	13	1898	15	M.	60	1.87½	2.50	2.32½
	13	1899	11	M.	60	2.00	2.50	2.30½
	13	1900	14	M.	60	2.00	2.50	2.34
Boiler makers' helpers:								
Buffalo, N. Y	7	1891	33	M.	60	1.10	1.80	1.40½
	7	1892	54	M.	60	1.25	1.85	1.41
	7	1893	39	M.	60	1.30	1.75	1.41
	7	1894	37	M.	60	1.30	1.60	1.41½
	7	1895	31	M.	60	1.25	1.60	1.38
	7	1896	36	M.	60	1.30	1.75	1.43
	7	1897	20	M.	54	1.12½	1.35	1.25
	7	1898	16	M.	54	1.17	1.53	1.26½
	7	1900	19	M.	54	1.17	1.62	1.28½
	10	1890	65	M.	60	1.50	2.00	1.63
	10	1895	30	M.	60	1.35	2.00	1.61
	10	1898	42	M.	54	1.35	1.80	1.52½
Cleveland, Ohio	13	1890	9	M.	60	1.62½	1.87½	1.75
	13	1891	8	M.	60	1.50	1.87½	1.61
	13	1892	6	M.	60	1.62½	1.87½	1.66½
	13	1893	6	M.	60	1.62½	1.87½	1.71
	13	1894	7	M.	60	1.50	1.62½	1.55½
	13	1895	6	M.	60	1.50	1.60	1.53½
	13	1896	7	M.	60	1.50	1.62½	1.55½
	13	1897	9	M.	60	1.50	1.75	1.61
	13	1898	6	M.	60	1.50	1.65	1.57½
	13	1899	6	M.	60	1.62½	1.75	1.68½
	13	1900	9	M.	60	1.65	1.75	1.73
Brass molders:								
New York, N. Y	17	1891	9	M.	54	2.66½	2.66½	2.66½
Brass molders' helpers:								
New York, N. Y	17	1891	5	M.	54	1.50	1.66½	1.58½
Carpenters:								
Atlanta, Ga	1	1890	26	M.	60	2.00	2.50	2.14½
	1	1899	62	M.	60	1.50	2.75	1.94
	1	1900	36	M.	60	1.50	2.75	2.00½
Augusta, Ga	2	1890	3	M.	59	1.33½	2.00	1.61
	2	1899	2	M.	59	1.75	1.80	1.77½
	2	1900	3	M.	59	1.50	1.80	1.68½

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continue

[Rates of wages are given for the first year for which they were obtainable and for each succe year in which changes in rates occurred up to April, 1900. For example, when under any occu only one date is shown, it is to be understood that there was no change in number of employ rates of wages up to April, 1900. In occupations where employees are paid by the piece average earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per d		
						Lowest.	Highest.	Av
Carpenters—Concluded.								
Birmingham Ala	5	1892	48	M.	60	$1.50	$2.25	
	5	1893	29	M.	60	1.50	2.50	
	5	1899	62	M.	60	1.50	2.50	
	5	1900	66	M.	60	1.50	2.75	
Charlotte, N. C	11	1890	15	M.	60	1.50	1.50	
	11	1899	19	M.	60	1.75	2.00	
Core makers:								
Lynn, Mass	16	1891	6	M.	(a)	2.00	2.25	
	16	1900	12	M.	(a)	2.50	3.00	
New York, N. Y	17	1891	4	M.	54	1.50	2.00	
Filers:								
New York, N. Y	17	1891	4	M.	54	1.66½	1.66½	
Laborers:								
Charlotte, N. C	11	1890	17	M.	60	.75	.75	
Machinists:								
Atlanta, Ga	1	1890	27	M.	60	1.75	3.00	
	1	1899	31	M.	60	1.75	3.00	
	1	1900	19	M.	60	1.75	3.25	
Augusta, Ga	2	1890	14	M.	59	1.50	2.33½	
	2	1899	14	M.	59	1.50	2.50	
	2	1900	19	M.	59	1.75	2.50	
Birmingham, Ala	3	1894	4	M.	60	2.65	2.65	
	3	1895	4	M.	60	2.75	2.75	
	3	1899	19	M.	60	2.75	3.00	
	3	1900	22	M.	60	3.00	3.00	
	4	1890	6	M.	60	2.00	2.75	
	4	1893	7	M.	60	1.75	2.50	
	4	1896	8	M.	60	2.00	2.75	
	4	1899	9	M.	60	2.00	3.00	
	5	1892	10	M.	60	2.00	3.00	
	5	1899	24	M.	60	2.00	3.00	
	5	1900	26	M.	60	2.00	3.25	
Buffalo, N. Y	8	1893	47	M.	60	2.00	3.00	
	8	1894	42	M.	60	1.80	2.90	
	8	1895	44	M.	60	1.80	3.00	
	8	1896	46	M.	60	1.80	3.00	
	8	1899	42	M.	60	1.70	3.00	
	8	1900	59	M.	60	1.80	3.00	
Charlotte, N. C	11	1890	28	M.	60	1.75	2.25	
	11	1899	40	M.	60	2.25	2.75	
Chicago, Ill	12	1891	24	M.	60	2.25	3.35	
	12	1892	33	M.	60	2.25	3.35	
	12	1893	30	M.	60	2.50	3.35	
	12	1894	29	M.	60	2.25	3.35	
	12	1895	25	M.	60	2.25	3.00	
	12	1896	25	M.	60	2.50	3.25	
	12	1898	13	M.	60	2.25	3.00	
	12	1899	17	M.	60	2.86	3.30	
	12	1900	12	M.	60	2.75	3.30	
Cleveland, Ohio	14	1890	47	M.	60	1.75	3.00	
	14	1891	47	M.	60	2.00	3.00	
	14	1892	48	M.	60	1.75	3.00	
	14	1893	44	M.	60	1.75	3.00	
	14	1894	16	M.	60	1.40	2.35	
	14	1895	15	M.	60	2.00	2.35	
	14	1896	24	M.	60	1.85	2.60	
	14	1897	19	M.	60	1.50	2.60	
	14	1898	20	M.	60	1.50	2.60	
	14	1899	31	M.	60	1.65	2.75	
	14	1900	54	M.	60	1.75	3.00	
Greensboro, N. C	15	1897	2	M.	60	1.50	2.25	
	15	1899	3	M.	60	1.25	2.25	
	15	1900	7	M.	60	1.25	2.25	
Philadelphia, Pa	18	1891	10	M.	54	1.66½	2.66½	
	18	1900	10	M.	48	2.00	3.00	
Machinists' helpers:								
Buffalo, N. Y	8	1893	38	M.	60	1.30	1.90	
	8	1894	27	M.	60	1.30	1.70	

(a) Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Machinists' helpers—Concl'd.								
Buffalo, N. Y.—Concluded ..	8	1895	26	M.	60	$1.20	$1.70	$1.51
	8	1896	25	M.	60	1.00	1.60	1.38
	8	1897	37	M.	60	1.00	1.70	1.43
	8	1898	36	M.	60	1.00	1.70	1.44
	8	1899	26	M.	60	1.00	1.60	1.40½
	8	1900	28	M.	60	1.00	1.70	1.36
Chicago, Ill	12	1891	6	M.	60	1.70	1.85	1.78½
	12	1892	9	M.	60	1.75	2.00	1.89½
	12	1893	13	M.	60	1.75	2.25	1.91
	12	1894	8	M.	60	1.85	2.00	1.92½
	12	1895	5	M.	60	1.67½	2.02½	1.84
	12	1896	5	M.	60	1.70	2.10	1.86
	12	1897	5	M.	60	1.70	2.10	1.87
	12	1898	6	M.	60	1.65	2.00	1.85
	12	1899	5	M.	60	1.65	2.50	1.89½
	12	1900	4	M.	60	1.65	2.20	1.95
Cleveland, Ohio.....	14	1890	90	M.	60	1.30	2.00	1.42
	14	1891	39	M.	60	1.20	1.85	1.45½
	14	1892	40	M.	60	1.30	1.50	1.40½
	14	1893	15	M.	60	1.40	1.50	1.41½
	14	1894	12	M.	60	1.15	1.15	1.15
	14	1895	7	M.	60	1.15	1.50	1.24½
	14	1896	21	M.	60	1.20	1.75	1.32½
	14	1897	14	M.	60	1.25	1.75	1.39½
	14	1899	30	M.	60	1.20	1.60	1.29½
	14	1900	40	M.	60	1.25	1.75	1.44½
Millwrights:								
Buffalo, N. Y	8	1893	16	M.	60	2.00	3.00	2.39½
	8	1894	16	M.	60	2.00	3.00	2.43½
	8	1895	10	M.	60	2.20	3.00	2.57
	8	1896	11	M.	60	2.10	3.00	2.53½
	8	1897	12	M.	60	2.10	3.00	2.51½
	8	1898	14	M.	60	2.00	3.00	2.39½
	8	1899	11	M.	60	2.00	2.80	2.27½
	8	1900	17	M.	60	2.00	3.00	2.30½
Millwrights' helpers:								
Buffalo, N. Y	8	1893	8	M.	60	1.40	1.80	1.56½
	8	1895	4	M.	60	1.40	1.80	1.55
	8	1896	5	M.	60	1.40	1.50	1.46
	8	1897	6	M.	60	1.40	1.80	1.50
	8	1898	10	M.	60	1.40	1.80	1.57
	8	1899	5	M.	60	1.50	1.60	1.54
	8	1900	5	M.	60	1.50	1.90	1.66
Molders:								
Atlanta, Ga	1	1890	10	M.	60	1.75	3.00	2.50
	1	1899	13	M.	60	1.50	3.00	1.98
	1	1900	12	M.	60	1.50	3.00	2.12½
Augusta, Ga.....	2	1890	9	M.	59	1.50	2.33½	2.13½
	2	1899	10	M.	59	1.55	2.50	1.93
	2	1900	14	M.	59	1.55	2.75	1.93
Birmingham, Ala	3	1894	4	M.	60	2.75	2.75	2.75
	3	1899	5	M.	60	2.75	3.00	2.85
	3	1900	8	M.	60	3.00	3.00	3.00
	4	1890	9	M.	60	2.00	2.75	2.45
	4	1892	8	M.	60	2.50	2.75	2.65½
	4	1893	7	M.	60	2.00	2.50	2.28½
	4	1896	9	M.	60	2.00	2.75	2.50
	4	1899	8	M.	60	2.75	3.00	2.93½
Buffalo, N. Y	8	1893	47	M.	60	2.00	2.70	2.30½
	8	1895	48	M.	60	1.80	2.70	2.26
	8	1899	39	M.	60	1.90	2.70	2.28½
	8	1900	42	M.	60	2.00	3.50	2.51
	9	1893	(a)	M.	51	1.50	4.50	2.75
	9	1894	(a)	M.	51	1.35	4.00	2.40
	9	1895	(a)	M.	51	1.35	3.00	2.00
	9	1899	(a)	M.	51	1.50	3.00	2.20

a This establishment reported the lowest, highest, and average rates of wages, but declined to report the number of employees.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continue

[Rates of wages are given for the first year for which they were obtainable and for each succe year in which changes in rates occurred up to April, 1900. For example, when under any occup only one date is shown, it is to be understood that there was no change in number of employe rates of wages up to April, 1900. In occupations where employees are paid by the piece average earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per da		
						Lowest.	Highest.	Ave
Molders—Concluded.								
Charlotte, N. C	11	1890	15	M.	60	$2.25	$2.25	$
	11	1899	15	M.	60	2.50	2.50	
Chicago, Ill	12	1891	30	M.	60	2.25	3.50	
	12	1892	30	M.	60	2.25	3.50	
	12	1893	23	M.	60	2.40	3.50	
	12	1894	15	M.	60	2.25	3.50	
	12	1895	16	M.	60	2.02½	3.15	
	12	1896	16	M.	60	2.25	3.50	
	12	1897	15	M.	60	2.40	3.50	
	12	1898	17	M.	60	2.40	3.50	
	12	1899	12	M.	60	2.75	3.85	
Cleveland, Ohio	14	1890	3	M.	60	2.35	2.75	
	14	1891	3	M.	60	1.65	2.60	
	14	1892	3	M.	60	1.65	2.65	
	14	1894	2	M.	60	1.30	2.10	
	14	1895	10	M.	60	1.75	2.25	
	14	1896	15	M.	60	2.50	2.60	
	14	1898	34	M.	60	2.25	2.75	
	14	1899	45	M.	60	2.50	2.75	
	14	1900	50	M.	60	2.75	3.00	
Lynn, Mass	16	1891	30	M.	59	2.25	2.50	
	16	1900	35	M.	59	2.75	3.50	
Molders' helpers:				M.				
Buffalo, N. Y	8	1893	40	M.	60	1.40	1.80	
	8	1894	44	M.	60	1.30	1.80	
	8	1895	40	M.	60	1.40	1.70	
	8	1897	38	M.	60	1.20	1.70	
	8	1898	33	M.	60	1.30	1.70	
	8	1899	26	M.	60	1.20	1.70	
	8	1900	26	M.	60	1.50	1.70	
Chicago, Ill	12	1891	22	M.	60	1.60	2.25	
	12	1892	12	M.	60	1.60	1.90	
	12	1893	14	M.	60	1.60	2.10	
	12	1894	16	M.	60	1.60	2.25	
	12	1895	10	M.	60	1.45	1.90	
	12	1896	17	M.	60	1.60	2.10	
	12	1897	19	M.	60	1.60	2.00	
	12	1898	8	M.	60	1.60	2.00	
	12	1899	13	M.	60	1.65	2.50	
	12	1900	14	M.	60	1.76	2.50	
Cleveland, Ohio	14	1890	7	M.	60	1.30	1.80	
	14	1891	4	M.	60	1.40	1.50	
	14	1892	9	M.	60	1.30	1.50	
	14	1893	4	M.	60	1.30	1.50	
	14	1894	2	M.	60	1.15	1.20	
	14	1895	8	M.	60	1.10	1.75	
	14	1896	9	M.	60	1.00	1.20	
	14	1897	16	M.	60	1.20	1.30	
	14	1898	49	M.	60	1.20	1.40	
	14	1900	35	M.	60	1.30	1.50	
Lynn, Mass	16	1891	4	M.	59	1.50	1.50	
Painters:								
Birmingham, Ala	5	1892	6	M.	60	2.00	2.00	
	5	1896	6	M.	60	1.25	2.25	
	5	1899	12	M.	60	1.50	2.50	
	5	1900	14	M.	60	1.50	2.75	
Pattern makers:								
Atlanta, Ga	1	1890	2	M.	60	2.25	3.00	
	1	1900	2	M.	60	2.50	3.00	
Augusta, Ga	2	1890	3	M.	59	2.00	2.33¼	
	2	1899	3	M.	59	2.00	2.75	
Birmingham, Ala	3	1894	2	M.	60	2.75	2.75	
	3	1899	4	M.	60	2.75	3.00	
	3	1900	5	M.	60	3.00	3.00	
	4	1890	2	M.	60	2.50	2.75	
	4	1892	2	M.	60	2.00	2.75	
	4	1893	2	M.	60	2.00	2.50	
	4	1896	2	M.	60	2.00	2.75	
	4	1899	3	M.	60	2.25	3.00	

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Pattern makers—Concluded.								
Buffalo, N.Y.	8	1891	4	M.	60	$2.50	$2.50	$2.50
	8	1894	8	M.	60	2.75	2.75	2.75
	8	1898	7	M.	60	2.75	3.00	2.82
	8	1899	6	M.	60	3.00	3.25	3.12½
	8	1900	5	M.	60	3.25	3.25	3.25
	9	1893	(a)	M.	60	1.50	3.00	(a)
	9	1894	(a)	M.	60	1.35	2.70	(a)
	9	1899	(a)	M.	60	1.75	2.50	(a)
Chicago, Ill	12	1891	27	M.	60	2.25	3.30	2.97
	12	1892	13	M.	60	2.50	3.30	3.04
	12	1893	9	M.	60	1.90	3.00	2.56
	12	1894	10	M.	60	2.75	3.25	3.03½
	12	1895	13	M.	60	1.90	2.92½	2.55½
	12	1896	13	M.	60	2.20	3.00	2.79
	12	1897	7	M.	60	2.75	3.15	2.98½
	12	1899	12	M.	60	2.47½	3.30	3.08
Screw-bolt makers:								
Worcester, Mass.	20	1898	24	M.	59	1.00	2.75	1.49
	20	1899	22	M.	59	1.00	2.75	1.53
	20	1900	41	M.	59	1.00	3.50	1.53½
Steam fitters:								
Philadelphia, Pa.	19	1891	40	M.	54	2.50	3.00	2.75
	19	1900	40	M.	48	3.00	3.00	3.00
Stove mounters:								
Buffalo, N. Y	9	1893	(b)	M.	54	2.25	2.75	2.37½
	9	1894	(b)	M.	54	2.00	2.50	2.15
	9	1899	(b)	M.	54	2.25	2.75	2.50
FURNITURE.								
Cabinetmakers:								
Atlanta, Ga	1	1892	11	M.	60	$1.25	$2.00	$1.52½
	1	1899	34	M.	60	1.25	2.25	1.57½
Greensboro, N. C	2	1895	3	M.	60	1.00	1.00	1.00
	2	1899	5	M.	60	1.00	1.25	1.10
Engineers, stationary:								
Greensboro, N. C	2	1895	1	M.	60	1.00	1.00	1.00
Finishers:								
Atlanta, Ga	1	1892	10	M.	60	.90	1.90	1.22½
	1	1899	30	M.	60	.90	1.90	1.21½
	1	1900	30	M.	60	1.00	2.00	1.31½
Greensboro, N. C	2	1895	3	M.	60	.80	1.25	.95
	2	1899	5	M.	60	.85	1.50	.98
HANDKERCHIEFS.								
Cutters:								
Passaic, N. J.	1	1898	68	F.	55	$0.58½	$1.16½	$0.72
Finishers:								
Passaic, N. J.	1	1898	19	M.	55	.83½	3.00	1.06½
	1	1898	90	F.	55	.75	1.33½	.91½
	1	1899	92	F.	55	.75	1.33½	.92½
Hemstitchers:								
Passaic, N. J.	1	1898	300	F.	55	.75	1.16½	.84½
Ironers:								
Passaic, N. J.	1	1898	2	M.	55	1.50	2.50	2.00
	1	1898	70	F.	55	.58½	.91½	.84
	1	1899	71	F.	55	.58½	.91½	.83½
	1	1900	73	F.	55	.58½	.91½	.84

a Not reported.
b This establishment reported the highest, lowest, and average rates of wages, but declined to report the number of employees.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Contin

[Rates of wages are given for the first year for which they were obtainable and for each su year in which changes in rates occurred up to April, 1900. For example, when under any oc only one date is shown, it is to be understood that there was no change in number of emp rates of wages up to April, 1900. In occupations where employees are paid by the piece aver earnings have been computed wherever possible.]

HATS, FELT.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per		A
						Lowest.	Highest.	
Finishers:								
Philadelphia, Pa.	1	1892	124	M.	54	$1.16⅔	$4.33⅓	
	1	1898	133	M.	54	1.16⅔	4.33⅓	
	1	1899	144	M.	54	1.33⅓	4.33⅓	
	1	1900	(a)	(a)	(a)	(a)	(a)	
Sizers:								
Philadelphia, Pa.	1	1892	123	M.	54	.58⅓	3.37½	
	1	1893	153	M.	54	.86	2.36	
	1	1894	103	M.	54	1.08	2.76½	
	1	1895	93	M.	54	.93	2.58	
	1	1896	120	M.	54	.82	2.58⅓	
	1	1897	108	M.	54	.82	2.65	
	1	1898	162	M.	54	.63	2.76	
	1	1899	175	M.	54	.98	3.06	
	1	1900	(a)	(a)	(a)	(a)	(a)	
Trimmers:								
Philadelphia, Pa.	1	1892	113	F.	54	.46	2.21½	
	1	1893	141	F.	54	.50	2.05	
	1	1894	148	F.	54	.39	2.04	
	1	1895	193	F.	54	.35	1.59½	
	1	1896	154	F.	54	.41	2.26⅔	
	1	1897	146	F.	54	.37½	2.00⅓	
	1	1898	145	F.	54	.37½	1.93⅓	
	1	1899	175	F.	54	.44⅓	2.02½	
	1	1900	(a)	(a)	(a)	(a)	(a)	

HOSIERY AND KNIT GOODS.

Knitters:								
Raleigh, N. C.	1	1897	5	M.	66	$0.49	$1.00	
	1	1897	4	F.	66	.30	.48	
Loopers:								
Raleigh, N. C.	1	1897	11	F.	66	.25	.83⅓	
Toppers:								
Raleigh, N. C.	1	1897	13	F.	66	.26	.46	

LACE CURTAINS.

Weavers:								
Philadelphia, Pa.	1	1892	17	M.	60	$0.80	$7.92½	
	1	1893	16	M.	60	.24⅓	2.93	
	1	1894	25	M.	60	1.64	5.89	
	1	1895	36	M.	60	.57	3.08⅓	
	1	1896	42	M.	60	.60⅓	2.81⅓	
	1	1897	38	M.	60	.38⅓	4.82⅓	
	1	1898	40	M.	60	.70	7.39	
	1	1899	45	M.	60	.75	7.89⅓	
	1	1900	53	M.	60	1.50	8.35	
Winders:								
Philadelphia, Pa.	1	1891	12	F.	60	.17½	.69⅓	
	1	1892	18	F.	60	.17½	1.58⅓	
	1	1893	14	F.	60	.33⅓	.54	
	1	1894	21	F.	60	.21	.94	
	1	1895	26	F.	60	.76	1.37½	
	1	1896	26	F.	60	.17½	.41	
	1	1897	20	F.	60	.81⅓	1.06⅓	
	1	1898	25	F.	60	.60	1.36⅓	
	1	1899	35	F.	60	.32½	1.35	
	1	1900	37	F.	60	.40	1.48	

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

LASTS.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Last makers:								
Worcester, Mass	1	1892	13	M.	59	$1.50	$2.75	$2.29½
	1	1899	16	M.	59	1.25	3.00	2.35
Model makers:								
Worcester, Mass	1	1892	3	M.	59	2.50	4.16⅔	3.44⅓
	1	1899	2	M.	59	4.16⅔	4.16⅔	4.16⅔
Pattern makers:								
Worcester, Mass	1	1892	1	M.	59	2.25	2.25	2.25

LAUNDRY WORK.

Ironers, hand:								
Atlanta, Ga	1	1895	3	F.	60	$0.50	$0.66⅔	$0.58⅓
	1	1899	4	F.	60	.58⅓	.62½	.59½
Ironers, machine:								
Atlanta, Ga	1	1895	8	F.	60	.66⅔	1.08⅓	.76

LEATHER.

Beamsters:								
Lynn, Mass	1	1891	10	M.	59	$1.50	$1.50	$1.50
	1	1893	6	M.	59	1.16⅔	1.50	1.33⅓
	1	1899	8	M.	59	1.33⅓	1.83⅓	1.52
Colorers:								
Lynn, Mass	1	1891	5	M.	59	1.50	1.50	1.50
	1	1893	3	M.	59	1.16⅔	1.16⅔	1.16⅔
	1	1899	3	M.	59	1.00	1.66⅔	1.33⅓
Peabody, Mass	2	1895	1	M.	59	2.50	2.50	2.50
Machine hands:								
Peabody, Mass	2	1895	4	M.	59	1.33⅓	1.66⅔	1.50
	2	1900	5	M.	59	1.33⅓	2.00	1.63⅓
Putters-out:								
Peabody, Mass	2	1895	4	M.	59	1.75	1.75	1.75
Seasoners:								
Lynn, Mass	1	1891	10	M.	59	1.33⅓	1.33⅓	1.33⅓
	1	1893	4	M.	59	1.00	1.00	1.00
	1	1899	8	M.	59	1.16⅔	1.16⅔	1.16⅔
Peabody, Mass	2	1895	2	M.	59	1.66⅔	2.00	1.83⅓
	2	1898	3	M.	59	1.50	2.00	1.72
Shavers:								
Peabody, Mass	2	1895	1	M.	59	3.56⅓	3.56⅓	3.56⅓
	2	1897	1	M.	59	3.46	3.46	3.46
	2	1898	1	M.	59	3.56⅓	3.56⅓	3.56⅓
	2	1899	1	M.	59	3.34⅓	3.34⅓	3.34⅓
	2	1900	1	M.	59	3.48⅓	3.48⅓	3.48⅓
Stakers:								
Lynn, Mass	1	1891	7	M.	59	1.33⅓	1.50	1.43
	1	1893	3	M.	59	1.50	1.50	1.50
	1	1899	6	M.	59	1.66⅔	1.66⅔	1.66⅔
Tanners:								
Peabody, Mass	2	1895	6	M.	59	1.66⅔	1.66⅔	1.66⅔

MATTRESSES AND SPRING BEDS.

Mattress makers:								
New York, N. Y	1	1891	4	M.	60	$2.00	$2.00	$2.00
Spring makers:								
New York, N. Y	1	1891	2	M.	60	2.50	2.50	2.50

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continu

[Rates of wages are given for the first year for which they were obtainable and for each succ year in which changes in rates occurred up to April, 1900. For example, when under any occu only one date is shown, it is to be understood that there was no change in number of emplo rates of wages up to April, 1900. In occupations where employees are paid by the piece averag earnings have been computed wherever possible.]

MINING, COAL.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per		
						Lowest.	Highest.	Av
Blacksmiths:								
Birmingham, Ala	1	1891	5	M.	60	$2.25	$2.25	
	1	1894	5	M.	60	2.15	2.15	
	1	1896	5	M.	60	2.05	2.05	
	1	1897	5	M.	60	2.00	2.00	
	1	1899	7	M.	60	2.05	2.81¼	
	1	1900	7	M.	60	2.81¼	2.81¼	
Blacksmiths' helpers:								
Birmingham, Ala	1	1891	5	M.	60	1.25	1.25	
	1	1894	5	M.	60	1.15	1.15	
	1	1899	7	M.	60	1.27½	1.58	
	1	1900	7	M.	60	1.58	1.58	
Car loaders:								
Birmingham, Ala	1	1891	10	M.	(a)	1.15	1.15	
	1	1894	7	M.	(a)	1.05	1.05	
	1	1899	8	M.	(a)	1.15	1.37½	
	1	1900	8	M.	(a)	1.37½	1.37½	
Carpenters:								
Birmingham, Ala	1	1891	5	M.	60	2.00	2.00	
	1	1894	5	M.	60	1.90	1.90	
	1	1895	5	M.	60	1.50	1.75	
	1	1896	5	M.	60	1.50	1.90	
	1	1897	4	M.	60	1.63	1.80	
	1	1898	7	M.	60	1.50	1.75	
	1	1899	7	M.	60	1.63	2.47½	
	1	1900	7	M.	60	2.47½	2.47½	
Drivers:								
Birmingham, Ala	1	1891	100	M.	(a)	1.25	1.25	
	1	1899	147	M.	(a)	1.27	1.58	
	1	1900	154	M.	(a)	1.58	1.58	
Dumpers:								
Birmingham, Ala	1	1891	10	M.	(a)	1.15	1.15	
	1	1894	8	M.	(a)	1.10	1.10	
	1	1899	14	M.	(a)	1.20	1.43	
	1	1900	14	M.	(a)	1.43	1.43	
Miners:								
Birmingham, Ala	1	1891	1,067	M.	(a)	b.45	b.45	
	1	1895	959	M.	(a)	b.42½	b.42½	
	1	1897	1,411	M.	(a)	b.37½	b.40	
	1	1899	1,485	M.	(a)	b.40	b.55	
	1	1900	1,485	M.	(a)	b.55	b.55	
	c1	1893	433	M.	(a)	b.40	b.40	
	c1	1894	438	M.	(a)	b.32½	b.40	
	c1	1897	443	M.	(a)	b.28	b.35	
	c1	1898	430	M.	(a)	b.28	b.30½	
	c1	1899	518	M.	(a)	b 30½	b.47½	
	c1	1900	522	M.	(a)	b.47½	b.47½	
	2	1895	553	M.	(a)	b.42½	b.42½	
	2	1897	643	M.	(a)	b.37½	b.40	
	2	1899	986	M.	(a)	b.40	b.55	
	2	1900	1,098	M.	(a)	b.55	b.55	
Pin pullers:								
Birmingham, Ala	1	1891	5	M.	(a)	1.15	1.15	
	1	1899	8	M.	(a)	1.27½	1.48½	
	1	1900	7	M.	(a)	1.48½	1.48½	
Scalers:								
Birmingham, Ala	1	1891	10	M.	(a)	1.10	1.10	
	1	1894	6	M.	(a)	1.00	1.00	
	1	1899	14	M.	(a)	1.10	1.32	
	1	1900	14	M.	(a)	1.32	1.32	
Tip middlemen:								
Birmingham, Ala	1	1891	10	M.	(a)	1.00	1.00	
	1	1899	22	M.	(a)	1.10	1.32	
	1	1900	18	M.	(a)	1.32	1.32	

a Not reported. b Per ton. c A second mine of establishment No. 1.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

MINING, COAL—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Track men:								
Birmingham, Ala	1	1891	40	M.	(a)	$1.25	$1.25	$1.25
	1	1894	32	M.	(a)	1.15	1.15	1.15
	1	1895	40	M.	(a)	1.10	1.10	1.10
	1	1896	50	M.	(a)	1.12	1.12	1.12
	1	1899	63	M.	(a)	1.13	1.54	1.37½
	1	1900	65	M.	(a)	1.54	1.54	1.54

PIG IRON.

Blacksmiths:								
Birmingham, Ala	2	1890	2	M.	60	$2.50	$2.75	$2.62½
	2	1899	4	M.	60	2.65	3.25	2.81½
Blacksmiths' helpers:								
Birmingham, Ala	2	1890	3	M.	60	1.25	1.25	1.25
	2	1899	5	M.	60	1.20	1.20	1.20
Brakemen, railroad:								
Birmingham, Ala	1	1893	4	M.	84	1.50	1.50	1.50
	1	1899	3	M.	84	1.45	1.45	1.45
	1	1900	2	M.	84	1.50	1.50	1.50
Breakers and pilers:								
Birmingham, Ala	1	1893	4	M.	84	1.00	1.00	1.00
	1	1896	22	M.	84	1.00	1.35	1.14½
	1	1899	18	M.	84	1.05	1.40	1.23
	1	1900	12	M.	84	1.10	1.75	1.23
	2	1890	42	M.	84	1.20	2.00	1.29½
	2	1896	21	M.	84	.90	1.50	1.05
	2	1899	22	M.	84	1.20	1.75	1.63½
Bricklayers:								
Birmingham, Ala	2	1890	3	M.	60	4.50	4.50	4.50
	2	1899	6	M.	60	4.05	4.40	4.11
	2	1900	6	M.	54	4.05	4.40	4.11
Cagers:								
Birmingham, Ala	2	1890	8	M.	84	1.35	1.35	1.35
	2	1896	6	M.	84	1.00	1.00	1.00
	2	1899	8	M.	84	1.20	1.20	1.20
Carpenters:								
Birmingham, Ala	2	1890	6	M.	60	2.00	2.50	2.25
	2	1899	11	M.	60	2.00	3.25	2.81
Engineers, locomotive:								
Birmingham, Ala	1	1893	4	M.	84	2.50	3.20	2.80
	1	1896	3	M.	84	2.15	2.25	2.21½
	1	1899	3	M.	84	2.50	3.00	2.83½
	1	1900	2	M.	84	2.55	3.05	2.80
Fall and wallow men:								
Birmingham, Ala	1	1893	4	M.	84	1.35	1.35	1.35
	1	1899	4	M.	84	1.40	1.40	1.40
	1	1900	4	M.	84	1.45	1.45	1.45
Fillers, coke:								
Birmingham, Ala	1	1893	16	M.	84	1.10	1.10	1.10
	1	1899	16	M.	84	1.20	1.20	1.20
	1	1900	20	M.	84	1.25	1.25	1.25
	2	1890	48	M.	84	1.33½	1.33½	1.33½
	2	1896	28	M.	84	1.00	1.00	1.00
	2	1899	48	M.	84	1.20	1.20	1.20
Fillers, lime:								
Birmingham, Ala	2	1890	16	M.	84	1.25	1.25	1.25
	2	1899	56	M.	84	1.20	1.20	1.20
Fillers, ore:								
Birmingham, Ala	1	1893	24	M.	84	1.10	1.10	1.10
	1	1899	24	M.	84	1.15	1.15	1.15
	1	1900	24	M.	84	1.25	1.25	1.25
	2	1890	48	M.	84	1.35	1.35	1.35
	2	1896	26	M.	84	1.00	1.00	1.00
	2	1899	56	M.	84	1.20	1.20	1.20

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PIG IRON—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Fillers, top:								
Birmingham, Ala	1	1893	4	M.	84	$1.50	$1.50	$1.5
	1	1899	4	M.	84	1.65	1.65	1.6
	1	1900	4	M.	84	1.70	1.70	1.7
	2	1890	8	M.	84	1.75	1.75	1.7
	2	1896	4	M.	84	1.45	1.45	1.4
	2	1899	8	M.	84	1.75	1.75	1.7
Fillers' helpers, top:								
Birmingham, Ala	1	1893	4	M.	84	1.25	1.25	1.2
	1	1896	4	M.	84	1.35	1.35	1.3
	1	1900	4	M.	84	1.40	1.40	1.4
	2	1890	8	M.	84	1.50	1.50	1.5
	2	1896	8	M.	84	1.25	1.25	1.2
	2	1899	8	M.	84	1.50	1.50	1.5
Firemen, locomotive:								
Birmingham, Ala	1	1893	4	M.	84	1.50	1.50	1.5
	1	1896	3	M.	84	1.40	1.40	1.4
	1	1899	3	M.	84	1.45	1.45	1.4
	1	1900	2	M.	84	1.50	1.50	1.5
Iron carriers:								
Birmingham, Ala	1	1893	10	M.	84	1.75	1.75	1.7
	1	1896	8	M.	84	1.60	1.60	1.6
	1	1899	8	M.	84	2.00	2.00	2.00
	2	1890	32	M.	84	2.00	2.00	2.00
	2	1896	10	M.	84	1.50	1.80	1.62
	2	1899	12	M.	84	2.00	2.00	2.00
Keepers:								
Birmingham, Ala	1	1893	4	M.	84	1.75	1.75	1.75
	1	1896	4	M.	84	1.70	1.70	1.70
	1	1899	4	M.	84	1.75	1.75	1.75
	1	1900	4	M.	84	1.80	1.80	1.80
	2	1890	8	M.	84	2.00	2.00	2.00
	2	1896	4	M.	84	1.50	1.60	1.55
	2	1899	8	M.	84	1.85	1.85	1.85
Keepers' helpers:								
Birmingham, Ala	1	1893	12	M.	84	1.35	1.35	1.35
	1	1899	12	M.	84	1.40	1.40	1.40
	1	1900	12	M.	84	1.45	1.45	1.45
	2	1890	32	M.	84	1.55	1.55	1.55
	2	1896	14	M.	84	1.00	1.25	1.15½
	2	1899	24	M.	84	1.25	1.50	1.36¼
Machinists:								
Birmingham, Ala	2	1890	4	M.	60	2.50	2.50	2.50
	2	1899	7	M.	60	2.50	2.75	2.60¼
Scale men:								
Birmingham, Ala	1	1893	5	M.	84	1.20	1.80	1.32
	1	1896	5	M.	84	1.25	1.30	1.29
	1	1899	5	M.	84	1.00	1.20	1.16
	1	1900	4	M.	84	1.25	1.25	1.25
	2	1890	8	M.	84	2.00	2.00	2.00
	2	1896	4	M.	84	1.50	1.75	1.62½
	2	1899	8	M.	84	2.00	2.00	2.00
Scrap men:								
Birmingham, Ala	1	1893	6	M.	84	1.25	1.25	1.25
	1	1896	2	M.	84	1.00	1.00	1.00
	1	1899	2	M.	84	1.25	1.25	1.25
	1	1900	2	M.	84	1.30	1.30	1.30
	2	1890	8	M.	84	1.25	1.25	1.25
	2	1896	5	M.	84	1.15	1.30	1.22
	2	1899	8	M.	84	1.37½	1.37½	1.37½
	2	1900	11	M.	84	1.25	1.37½	1.34½
Stock dumpers:								
Birmingham, Ala	1	1893	2	M.	84	1.15	1.25	1.20
	1	1896	3	M.	84	1.10	1.25	1.15
	2	1890	6	M.	84	1.10	1.50	1.19
	2	1896	4	M.	84	1.00	1.00	1.00
	2	1899	12	M.	84	1.10	1.50	1.16
Stove men:								
Birmingham, Ala	1	1893	4	M.	84	1.60	1.60	1.60
	1	1896	2	M.	84	2.00	2.00	2.00

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PIG IRON—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Stove men—Concluded.								
Birmingham, Ala.—Concl'd.	1	1899	4	M.	84	$1.60	$1.60	$1.60
	1	1900	4	M.	84	1.65	1.65	1.65
	2	1890	8	M.	84	1.75	1.75	1.75
	2	1897	4	M.	84	1.35	1.50	1.42½
	2	1899	8	M.	84	1.75	1.75	1.75

PLANING-MILL PRODUCTS.

Engineers, stationary:								
New York, N. Y	2	1890	1	M.	60	$3.00	$3.00	$3.00
	2	1897	1	M.	53	3.00	3.00	3.00
Mill men:								
Oakland, Cal	3	1888	15	M.	54	2.00	3.00	2.66⅔
	3	1894	30	M.	54	2.00	3.25	2.75
	3	1895	15	M.	54	2.00	3.00	2.66⅔
Planers and sawyers:								
Buffalo, N. Y	1	1891	15	M.	60	2.00	2.50	2.20
New York, N. Y	2	1891	28	M.	60	2.50	3.00	2.75
	2	1899	30	M.	53	2.50	3.00	2.75

PRINTING AND PUBLISHING.

Bookbinders:								
Atlanta, Ga	1	1895	5	M.	60	$1.65	$2.85	$2.25
	1	1899	7	M.	60	2.00	3.00	2.43
Birmingham, Ala	3	1891	2	M.	60	2.75	3.33⅓	3.04
Buffalo, N. Y	8	1891	(a)	M.	60	2.50	2.50	2.50
	8	1897	(a)	M.	57	2.50	2.50	2.50
	8	1899	(a)	M.	54	2.50	2.50	2.50
Chicago, Ill	10	1891	35	M.	60	3.00	3.00	3.00
	10	1898	50	M.	54	2.83	2.83	2.83
	10	1899	50	M.	54	3.00	3.00	3.00
	11	1891	3	M.	60	3.00	3.00	3.00
	11	1898	12	M.	54	2.83	2.83	2.83
	11	1899	12	M.	54	3.00	3.00	3.00
New York, N. Y	13	1893	35	M.	59	2.50	3.33⅓	2.83⅓
	13	1898	38	M.	56½	2.50	3.33⅓	2.83⅓
	13	1899	40	M.	54	2.50	3.33⅓	2.83⅓
Raleigh, N. C	19	1890	6	M.	60	1.66⅔	2.33⅓	2.00
	19	1899	6	M.	54	1.66⅔	2.33⅓	2.00
San Francisco, Cal	20	1890	11	M.	59	3.00	4.50	3.32
	20	1897	17	M.	59	3.00	4.00	3.32½
	20	1900	20	M.	59	2.75	4.00	3.12½
Compositors:								
Atlanta, Ga	1	1895	9	M.	60	1.35	2.85	1.89½
	1	1899	16	M.	60	1.50	3.00	2.10½
Birmingham, Ala	3	1891	5	M.	60	2.75	3.00	2.80
	3	1898	6	M.	57	2.66⅔	3.33⅓	2.78
	3	1899	8	M.	54	2.66⅔	3.33⅓	2.79
	4	1890	2	M.	54	3.15	3.15	3.15
	4	1894	3	M.	54	3.33⅓	3.75	3.47
Boston, Mass	5	1892	7	M.	60	2.33⅓	2.83⅓	2.50
	5	1898	7	M.	60	2.33⅓	3.00	2.59½
	5	1899	12	M.	54	2.50	3.00	2.59½
	5	1892	21	F.	53	.85	2.65	1.71½
	5	1898	33	F.	53	1.03½	2.65	1.69
	5	1899	50	F.	53	.86½	2.65	1.75½
	5	1900	44	F.	53	1.14½	2.60	1.59½
	6	1891	14	M.	60	2.58½	3.00	2.78
	6	1894	26	M.	60	2.50	3.00	2.67½
	6	1898	18	M.	54	2.50	3.16½	2.69

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continue

[Rates of wages are given for the first year for which they were obtainable and for each succe year in which changes in rates occurred up to April, 1900. For example, when under any occup only one date is shown, it is to be understood that there was no change in number of employe rates of wages up to April, 1900. In occupations where employees are paid by the piece average earnings have been computed wherever possible.]

PRINTING AND PUBLISHING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per da		Ave
						Lowest.	Highest.	
Compositors—Concluded.								
Buffalo, N. Y	8	1891	(a)	M.	60	$2.50	$2.50	
	8	1897	(a)	M.	57	2.50	2.50	
	8	1899	(a)	M.	54	2.50	2.50	
Charlotte, N. C	9	1895	3	M.	59	1.50	2.00	
	9	1899	10	M.	59	1.50	2.50	
Chicago, Ill	10	1891	80	M.	60	3.00	3.00	
	10	1898	80	M.	54	2.83	2.83	
	10	1899	80	M.	54	3.00	3.00	
	11	1891	40	M.	60	3.00	3.00	
	11	1898	45	M.	54	2.83	2.83	
	11	1899	50	M.	54	3.00	3.00	
Cleveland, Ohio	12	1890	13	M.	60	2.50	2.66⅔	
	12	1891	13	M.	60	2.50	2.50	
	12	1893	13	M.	60	2.50	2.66⅔	
	12	1895	22	M.	58	2.41¼	2.74	
	12	1897	10	M.	56	2.33⅓	2.64⅛	
	12	1899	17	M.	53	2.21	2.50⅛	
	12	1900	15	M.	50	2.50	2.83⅓	
New York, N. Y	13	1893	65	M.	59	3.00	3.00	
	13	1898	75	M.	56⅔	3.00	3.00	
	13	1899	85	M.	54	3.00	3.00	
Philadelphia, Pa	18	1891	6	M.	60	1.66⅔	2.66⅔	
	18	1892	5	M.	60	2.50	2.66⅔	
	18	1894	3	M.	60	2.00	2.50	
	18	1895	3	M.	60	2.00	2.66⅔	
	18	1897	4	M.	60	2.00	2.66⅔	
	18	1899	3	M.	60	2.50	2.66⅔	
	18	1894	b10	M.	60	.89½	1.87½	
	18	1895	b9	M.	60	.37½	2.50	
	18	1896	b12	M.	60	1.17½	2.50	
	18	1897	b11	M.	60	.43½	2.09	
	18	1898	b13	M.	60	.88	2.03½	
	18	1899	b7	M.	60	.78½	1.67	
	18	1900	b20	M.	60	1.23	2.69	
Raleigh, N. C	19	1890	20	M.	60	2.33⅓	2.33⅓	
	19	1899	15	M.	54	2.33⅓	2.33⅓	
San Francisco, Cal	20	1890	10	M.	59	2.00	4.16⅔	
	20	1895	11	M.	59	3.00	4.16⅔	
	20	1899	14	M.	59	2.66⅔	4.33⅓	
	20	1900	15	M.	59	2.50	4.50	
Compositors, machine:								
Atlanta, Ga	2	1892	10	M.	48	3.00	3.00	
	2	1895	10	M.	48	4.00	4.00	
Birmingham, Ala	4	1894	4	M.	42	3.01	3.01	
Charlotte, N. C	9	1896	4	M.	54	3.00	3.25	
Coverers:								
Boston, Mass	7	1891	2	M.	59	2.66⅔	2.66⅔	
	7	1892	2	M.	59	1.83⅓	2.83⅓	
	7	1893	2	M.	59	2.50	4.00	
	7	1894	2	M.	59	4.00	5.00	
	7	1895	2	M.	59	4.50	5.83⅓	
	7	1896	2	M.	59	2.33⅓	4.50	
	7	1897	2	M.	59	4.00	5.00	
	7	1898	2	M.	59	3.83⅓	4.50	
	7	1899	2	M.	55	4.88⅓	5.45	
	7	1900	2	M.	55	4.13	4.41⅓	
Chicago, Ill	11	1891	3	F.	60	c.60	c1.00	
	11	1898	9	F.	54	c.60	c1.00	
Cutters:								
Boston, Mass	7	1891	4	M.	59	1.66⅔	3.00	
	7	1892	4	M.	59	2.33⅓	3.33⅓	
	7	1893	4	M.	59	2.33⅓	2.50	
	7	1894	4	M.	59	1.66⅔	3.00	
	7	1895	5	M.	59	2.00	3.00	
	7	1896	5	M.	59	2.00	3.00	
	7	1897	5	M.	59	2.00	3.00	
	7	1898	5	M.	59	2.33⅓	3.00	
	7	1899	4	M.	55	2.50	3.00	
	7	1900	4	M.	55	2.33⅓	3.00	

a Not reported. b Pieceworkers. c Per 1,000 books.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PRINTING AND PUBLISHING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Electrotypers:								
Atlanta, Ga	1	1895	2	M.	60	$2.50	$4.00	$3.25
New York, N. Y	13	1893	12	M.	59	4.00	4.00	4.00
	13	1898	16	M.	56½	4.00	4.00	4.00
	13	1899	17	M.	54	4.00	4.00	4.00
Electrotypers' helpers:								
New York, N. Y	13	1893	12	M.	59	2.50	2.50	2.50
	13	1898	16	M.	56½	2.50	2.50	2.50
	13	1899	17	M.	54	2.50	2.50	2.50
Engineers, stationary:								
Charlotte, N. C	9	1895	2	M.	59	1.00	1.50	1.25
Finishers:								
Boston, Mass	7	1891	4	M.	59	2.00	2.66⅔	2.37½
	7	1892	4	M.	59	2.33⅓	2.66⅔	2.50
	7	1893	4	M.	59	2.33⅓	2.83⅓	2.54
	7	1894	4	M.	59	2.16⅔	2.66⅔	2.41⅔
	7	1895	4	M.	59	2.00	3.00	2.50
	7	1896	3	M.	59	3.00	3.00	3.00
	7	1899	6	M.	55	3.00	3.00	3.00
	7	1900	5	M.	55	3.00	3.33⅓	3.06⅔
Buffalo, N. Y	8	1891	(a)	M.	60	2.75	3.00	(a)
	8	1897	(a)	M.	57	2.75	3.00	(a)
	8	1899	(a)	M.	54	2.75	3.00	(a)
Folders:								
Chicago, Ill	10	1891	50	F.	48	b.10	b.10	b.10
	11	1891	12	F.	60	b.10	b.10	b.10
	11	1898	12	F.	54	b.10	b.10	b.10
Folders, hand:								
Boston, Mass	7	1891	37	F.	59	.50	1.00	.72
	7	1892	29	F.	59	.50	1.16⅔	.89½
	7	1893	38	F.	59	.50	1.33⅓	.86
	7	1894	24	F.	59	.50	1.16⅔	.80
	7	1895	27	F.	59	.66⅔	1.16⅔	.87
	7	1896	24	F.	59	.50	1.00	.76⅓
	7	1897	23	F.	59	.50	1.16⅔	.78½
	7	1899	28	F.	55	.66⅔	1.33⅓	1.00½
	7	1900	19	F.	55	.66⅔	1.16⅔	.87½
Folders, machine:								
Boston, Mass	7	1892	2	F.	59	1.83⅓	1.83⅓	1.83⅓
	7	1893	2	F.	59	1.83⅓	2.00	1.91⅔
	7	1894	2	F.	59	1.33⅓	1.50	1.41⅔
	7	1895	2	F.	59	1.66⅔	1.66⅔	1.66⅔
	7	1896	2	F.	59	1.33⅓	1.33⅓	1.33⅓
	7	1897	3	F.	59	1.83⅓	1.83⅓	1.83⅓
	7	1899	3	F.	55	1.66⅔	1.83⅓	1.78
	7	1900	3	F.	55	1.83⅓	1.83⅓	1.83⅓
Folders and gatherers:								
San Francisco, Cal	20	1890	39	F.	53	.50	1.08⅓	.89⅓
	20	1893	34	F.	53	.50	1.08⅓	.89
	20	1898	33	F.	55	.50	1.16⅔	.83⅓
Forwarders:								
Boston, Mass	7	1891	8	M.	59	2.16⅔	3.00	2.60⅓
	7	1892	6	M.	59	1.66⅔	3.16⅔	2.55⅓
	7	1893	5	M.	59	2.50	3.50	3.00
	7	1894	6	M.	59	2.50	3.50	2.97
	7	1895	7	M.	59	2.33⅓	3.33⅓	2.78⅓
	7	1896	5	M.	59	2.50	3.00	2.76⅓
	7	1897	6	M.	59	2.50	3.50	2.89
	7	1898	5	M.	59	2.50	3.16⅔	2.73⅓
	7	1899	4	M.	55	2.36	2.73	2.53
	7	1900	3	M.	55	1.56⅓	2.77⅓	2.29⅓
Gatherers:								
Boston, Mass	7	1891	4	F.	59	.83⅓	1.16⅔	1.04
	7	1892	4	F.	59	1.16⅔	1.50	1.25
	7	1893	4	F.	59	1.00	1.33⅓	1.12½
	7	1894	4	F.	59	.83⅓	1.16⅔	1.00
	7	1895	4	F.	59	1.00	1.50	1.21
	7	1896	4	F.	59	.83⅓	1.16⅔	1.00

a Not reported. b Per 1,000 folds.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Contin

[Rates of wages are given for the first year for which they were obtainable and for each suc year in which changes in rates occurred up to April, 1900. For example, when under any oc only one date is shown, it is to be understood that there was no change in number of empl rates of wages up to April, 1900. In occupations where employees are paid by the piece aver earnings have been computed wherever possible.]

PRINTING AND PUBLISHING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per		A
						Lowest.	Highest.	
Gatherers—Concluded.								
Boston, Mass.—Concluded ..	7	1897	4	F.	59	$1.00	$1.33⅓	
	7	1898	4	F.	59	1.00	1.16⅔	
	7	1899	4	F.	55	1.00	1.50	
	7	1900	4	F.	55	1.00	1.50	
Chicago, Ill	10	1891	8	F.	48	*a*.12	*a*.12	
	11	1891	4	F.	60	*a*.10	*a*.10	
	11	1898	8	F.	54	*a*.10	*a*.10	
Gilders:								
Boston, Mass	7	1891	2	M.	59	2.83⅓	2.83⅓	
	7	1892	2	M.	59	4.00	4.00	
	7	1893	2	M.	59	4.16⅔	4.33⅓	
	7	1894	2	M.	59	3.50	4.16⅔	
	7	1895	2	M.	59	3.83⅓	4.16⅔	
	7	1896	2	M.	59	3.00	3.00	
	7	1897	3	M.	59	3.00	3.83⅓	
	7	1898	2	M.	59	4.16⅔	5.00	
	7	1899	2	M.	55	3.72	4.05	
	7	1900	6	M.	55	3.50	3.50	
Gold-leaf layers:								
Boston, Mass	7	1891	5	F.	59	.83⅓	1.50	
	7	1892	5	F.	59	1.00	1.50	
	7	1893	5	F.	59	1.33⅓	1.50	
	7	1894	5	F.	59	1.16⅔	1.50	
	7	1895	7	F.	59	.83⅓	1.50	
	7	1896	5	F.	59	1.50	1.50	
	7	1899	8	F.	55	1.50	1.50	
Half-tone men, photo-engraving:								
New York, N. Y	*b* 14	1897	12	M.	48	4.16⅔	5.83⅓	
Linemen, photo-engraving:								
New York, N. Y	*b* 14	1895	100	M.	48	3.00	3.66⅔	
	b 14	1897	120	M.	48	3.50	4.00	
Pasters:								
Boston, Mass	7	1891	6	F.	59	1.00	1.33⅓	
	7	1893	9	F.	59	1.00	1.50	
	7	1894	10	F.	59	1.00	1.50	
	7	1895	13	F.	59	1.00	1.50	
	7	1896	11	F.	59	.83⅓	1.50	
	7	1897	10	F.	59	.83⅓	1.50	
	7	1898	10	F.	59	.83⅓	1.50	
	7	1899	10	F.	55	1.00	1.83⅓	
	7	1900	8	F.	55	.83⅓	1.66⅔	
Press feeders:								
Boston, Mass	5	1892	16	M.	60	1.66⅔	1.66⅔	
	5	1899	18	M.	54	1.66⅔	1.66⅔	
	5	1900	18	M.	54	2.00	2.00	
	6	1891	11	M.	60	1.50	1.66⅔	
	6	1892	11	M.	60	1.50	1.83⅓	
	6	1896	11	M.	60	1.66⅔	2.00	
	6	1897	11	M.	60	1.50	2.00	
	6	1898	11	M.	54	1.50	2.00	
	6	1900	9	M.	54	2.00	2.00	
Buffalo, N. Y	8	1891	(*c*)	M.	60	.66⅔	.75	
	8	1893	(*c*)	M.	60	.66⅔	.83⅓	
	8	1894	(*c*)	M.	60	.83⅓	1.00	
	8	1899	(*c*)	M.	54	.83⅓	1.25	
Chicago, Ill	10	1891	30	M.	60	1.50	1.50	
	10	1892	30	M.	60	1.75	1.75	
	10	1897	40	M.	60	1.92	1.92	
	10	1898	40	M.	54	1.83⅓	1.83⅓	
	10	1899	40	M.	54	1.92	1.92	
	11	1891	7	M.	60	1.75	1.75	
	11	1898	12	M.	54	1.83⅓	1.83⅓	
	11	1899	14	M.	54	1.92	1.92	
New York, N. Y	13	1898	40	M.	59	1.00	1.66⅔	
	13	1898	40	M.	56⅔	1.33⅓	2.00	
	13	1899	40	M.	54	1.66⅔	2.00	

a Per 1,000 signatures.
b Information furnished by a member of the Photo-engravers' Union.
c Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PRINTING AND PUBLISHING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Press feeders—Concluded.								
New York, N. Y—Concl'd	a 15	1891	700	M.	59	$2.00	$2.33⅓	$2.14⅓
	a 15	1898	1,700	M.	57	2.33⅓	2.33⅓	2.33⅓
	a 15	1899	2,000	M.	54	2.33⅓	2.33⅓	2.33⅓
San Francisco, Cal	20	1890	5	M.	59	1.25	1.66⅔	1.33⅓
	20	1899	10	M.	59	1.25	2.00	1.36⅔
Pressmen:								
Atlanta, Ga	1	1895	3	M.	60	2.15	3.00	2.61⅓
	1	1899	3	M.	60	2.50	3.33⅓	2.94⅓
Birmingham, Ala	3	1891	1	M.	60	3.00	3.00	3.00
	3	1898	2	M.	60	2.16⅔	3.00	2.58⅓
Boston, Mass	5	1892	4	M.	60	2.50	3.33⅓	2.87⅓
	5	1899	5	M.	54	2.50	3.33⅓	2.90
	6	1891	11	M.	60	2.50	4.50	3.18
	6	1892	11	M.	60	2.50	4.50	3.24
	6	1893	8	M.	60	2.50	4.50	3.46
	6	1894	8	M.	60	2.50	4.50	3.43⅓
	6	1895	7	M.	60	2.50	4.50	3.45
	6	1896	7	M.	60	2.50	4.50	3.47⅓
	6	1898	5	M.	54	2.50	4.16⅔	3.46⅓
	6	1900	7	M.	54	2.50	4.16⅔	3.31
Buffalo, N. Y	8	1891	(b)	M.	60	2.00	3.00	(b)
	8	1897	(b)	M.	57	2.25	3.00	(b)
	8	1899	(b)	M.	54	2.50	3.33⅓	(b)
Charlotte, N. C	9	1895	1	M.	59	2.00	2.00	2.00
Chicago, Ill	10	1891	20	M.	60	3.50	3.50	3.50
	10	1898	25	M.	54	3.33⅓	3.33⅓	3.33⅓
	10	1899	25	M.	54	3.50	3.50	3.50
	11	1891	4	M.	60	3.50	3.50	3.50
	11	1898	6	M.	54	3.33⅓	3.33⅓	3.33⅓
	11	1899	8	M.	54	3.50	3.50	3.50
New York, N. Y	13	1893	23	M.	59	3.33⅓	4.00	3.54⅓
	13	1898	23	M.	56⅔	3.33⅓	4.00	3.54⅓
	13	1899	23	M.	54	3.33⅓	4.00	3.54⅓
	a 16	1896	1,075	M.	59	3.33⅓	6.66⅔	3.83⅓
	a 16	1898	1,500	M.	57	3.33⅓	6.66⅔	3.83⅓
	a 16	1899	1,562	M.	54	3.33⅓	6.66⅔	3.83⅓
Philadelphia, Pa	18	1891	8	M.	60	2.66⅔	3.66⅔	3.00
	18	1894	8	M.	60	2.00	2.75	2.24
	18	1895	8	M.	60	2.66⅔	3.66⅔	3.04
	18	1897	5	M.	60	2.66⅔	3.33⅓	3.00
	18	1899	7	M.	60	2.66⅔	3.33⅓	2.93
	18	1900	9	M.	60	3.00	3.41⅔	3.16
Raleigh, N. C	19	1890	4	M.	60	1.25	1.25	1.25
	19	1899	4	M.	54	1.25	1.25	1.25
San Francisco, Cal	20	1890	4	M.	59	2.50	3.50	3.00
	20	1895	7	M.	59	2.50	4.00	3.14⅓
	20	1899	9	M.	59	2.50	4.16⅔	2.85
Proof readers: (c)								
Boston, Mass	5	1892	4	F.	53	1.44	3.33⅓	2.01⅓
	5	1898	6	F.	53	1.50	4.16⅔	2.21⅔
	5	1899	6	F.	53	1.66⅔	4.16⅔	2.51
	5	1900	5	F.	53	1.66⅔	4.16⅔	2.43⅓
Sewers:								
Boston, Mass	7	1891	8	F.	59	.66⅔	1.83⅓	1.23
	7	1892	5	F.	59	1.16⅔	1.83⅓	1.40
	7	1893	7	F.	59	1.33⅓	1.66⅔	1.43
	7	1894	6	F.	59	1.00	1.50	1.28
	7	1895	6	F.	59	1.00	1.83⅓	1.47
	7	1896	7	F.	59	.83⅓	1.50	1.19
	7	1897	6	F.	59	1.83⅓	1.50	1.39
	7	1898	5	F.	59	1.16⅔	1.50	1.30
	7	1899	5	F.	55	1.50	1.83⅓	1.56⅓
	7	1900	6	F.	55	1.16⅔	1.66⅔	1.30⅓
Chicago, Ill	11	1891	11	F.	60	.41⅔	1.16⅔	.82
	11	1898	22	F.	54	.41⅔	1.16⅔	.82

a Information furnished by secretary of union.
b Not reported.
c Including copyholders.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeedi year in which changes in rates occurred up to April, 1900. For example, when under any occupati only one date is shown, it is to be understood that there was no change in number of employees rates of wages up to April, 1900. In occupations where employees are paid by the piece average dai earnings have been computed wherever possible.]

PRINTING AND PUBLISHING—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average
Sewers—Concluded.								
San Francisco, Cal	20	1890	8	F.	53	$1.33⅓	$1.66⅔	$1.50
	20	1893	8	F.	53	1.33⅓	1.66⅔	1.46
	20	1900	14	F.	53	1.16⅔	1.66⅔	1.27
Sheet workers:								
New York, N. Y	13	1893	40	F.	59	1.50	2.00	1.58
	13	1898	50	F.	56⅔	1.50	2.00	1.58
	13	1899	55	F.	54	1.50	2.00	1.58
Stereotypers:								
New York, N. Y	a17	1895	400	M.	59	4.00	4.50	4.31
	a17	1898	425	M.	54	4.00	4.50	4.29

SHIPBUILDING.

Blacksmiths:								
Boston, Mass	1	1891	20	M.	60	$2.50	$3.00	$2.75
	1	1892	20	M.	54	2.25	2.70	2.47½
Cleveland, Ohio	2	1890	10	M.	60	2.12½	3.25	2.52½
	2	1891	10	M.	60	2.00	3.25	2.52½
	2	1892	9	M.	60	2.25	3.25	2.57
	2	1893	8	M.	60	2.25	3.25	2.53
	2	1894	9	M.	60	2.10	2.92½	2.30½
	2	1895	11	M.	60	1.75	3.00	2.35
	2	1896	9	M.	60	2.25	3.25	2.54
	2	1898	5	M.	60	2.37½	3.25	2.65
	2	1899	11	M.	60	2.25	3.25	2.51
	2	1900	15	M.	60	2.25	4.00	2.57½
Blacksmiths' helpers:								
Boston, Mass	1	1891	18	M.	60	1.75	1.75	1.75
	1	1892	18	M.	54	1.57½	1.57½	1.57½
	1	1893	18	M.	54	1.66½	1.66½	1.66½
Cleveland, Ohio	2	1890	10	M.	60	1.50	1.75	1.70
	2	1892	12	M.	60	1.40	2.00	1.57½
	2	1893	10	M.	60	1.50	2.00	1.62½
	2	1894	7	M.	60	1.21½	1.80	1.46
	2	1895	12	M.	60	1.35	1.62½	1.47½
	2	1896	11	M.	60	1.50	1.65	1.63
	2	1897	5	M.	60	1.45	1.65	1.58
	2	1898	6	M.	60	1.50	1.65	1.61½
	2	1899	11	M.	60	1.50	1.80	1.64
	2	1900	20	M.	60	1.40	2.00	1.67
Boiler makers:								
Boston, Mass	1	1891	100	M.	60	2.50	3.50	2.70
	1	1892	100	M.	54	2.50	3.50	2.70
Cleveland, Ohio	2	1890	60	M.	60	1.87½	2.75	2.29
	2	1891	49	M.	60	2.00	2.75	2.35
	2	1892	30	M.	60	2.00	2.75	2.28½
	2	1893	23	M.	60	2.00	2.62½	2.30
	2	1894	62	M.	60	1.80	2.70	2.10
	2	1895	54	M.	60	1.75	2.37½	2.19
	2	1896	32	M.	60	1.65	3.00	2.32½
	2	1897	15	M.	60	2.25	2.87½	2.54
	2	1898	21	M.	60	2.25	2.62½	2.52
	2	1899	28	M.	60	2.25	2.75	2.52
	2	1900	56	M.	60	2.00	3.00	2.52
Boiler makers' helpers:								
Boston, Mass	1	1891	40	M.	60	1.75	1.75	1.75
	1	1892	40	M.	54	1.75	1.75	1.75
Cleveland, Ohio	2	1890	54	M.	60	1.40	1.87½	1.52½
	2	1891	40	M.	60	1.40	1.75	1.51½
	2	1892	30	M.	60	1.30	1.75	1.51½
	2	1893	22	M.	60	1.40	1.75	1.49
	2	1894	71	M.	60	1.08	1.57½	1.29½
	2	1895	83	M.	60	1.20	1.60	1.31

a Information furnished by officer of union.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

SHIPBUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Boiler makers' helpers—Concl'd.								
Cleveland, Ohio—Concl'd ...	2	1896	42	M.	60	$1.40	$1.50	$1.49
	2	1897	23	M.	60	1.40	1.75	1.53½
	2	1899	56	M.	60	1.35	2.00	1.57½
	2	1900	86	M.	60	1.40	1.90	1.55½
Chippers:								
Cleveland, Ohio.....	2	1890	6	M.	60	1.50	1.75	1.61
	2	1891	5	M.	60	1.75	1.85	1.79
	2	1892	5	M.	60	1.50	1.85	1.72
	2	1893	7	M.	60	1.75	1.85	1.76½
	2	1894	6	M.	60	1.57½	1.66½	1.59
	2	1896	5	M.	60	1.75	1.85	1.77
	2	1898	6	M.	60	1.65	1.85	1.73½
	2	1899	3	M.	60	1.75	1.85	1.81½
	2	1900	11	M.	60	1.75	2.25	1.87½
Core makers:								
Cleveland, Ohio.....	2	1890	6	M.	60	1.50	2.25	1.91½
	2	1891	7	M.	60	1.75	2.25	1.96½
	2	1892	14	M.	60	1.75	2.25	1.95
	2	1893	10	M.	60	2.00	2.75	2.22½
	2	1894	10	M.	60	1.57½	2.02½	1.86½
	2	1895	10	M.	60	1.80	2.02½	1.89
	2	1896	9	M.	60	2.00	2.25	2.11
	2	1899	11	M.	60	2.00	2.25	2.10½
	2	1900	9	M.	60	2.25	2.50	2.29
Machinists:								
Boston, Mass.....	1	1891	75	M.	60	2.25	3.50	2.50
	1	1892	80	M.	54	2.02½	3.15	2.25
	1	1899	100	M.	54	2.25	3.15	2.47½
Cleveland, Ohio.....	2	1890	130	M.	60	2.00	3.25	2.32
	2	1891	116	M.	60	2.00	3.25	2.33
	2	1892	121	M.	60	1.87½	3.25	2.29½
	2	1893	93	M.	60	2.00	3.25	2.32½
	2	1894	96	M.	60	1.75	2.92½	2.12½
	2	1895	101	M.	60	1.80	3.25	2.15½
	2	1896	96	M.	60	2.00	3.25	2.34½
	2	1897	36	M.	60	2.00	3.00	2.35
	2	1899	74	M.	60	2.00	3.25	2.41
	2	1900	131	M.	60	2.00	3.25	2.43½
Machinists' helpers:								
Boston, Mass.....	1	1891	15	M.	60	1.50	2.00	1.85
	1	1892	17	M.	54	1.35	1.80	1.66½
Cleveland, Ohio	2	1890	49	M.	60	1.25	1.75	1.53½
	2	1891	51	M.	60	1.25	1.80	1.50
	2	1892	26	M.	60	1.25	1.75	1.52
	2	1893	46	M.	60	1.25	1.90	1.55½
	2	1894	53	M.	60	1.12½	1.80	1.40½
	2	1895	54	M.	60	1.25	1.80	1.33½
	2	1896	49	M.	60	1.25	1.75	1.45
	2	1897	15	M.	60	1.40	1.50	1.46½
	2	1898	33	M.	60	1.40	1.75	1.50½
	2	1899	57	M.	60	1.40	1.80	1.54
	2	1900	91	M.	60	1.50	2.00	1.59½
Molders:								
Cleveland, Ohio.....	2	1890	29	M.	60	2.00	3.10	2.51½
	2	1891	24	M.	60	2.00	3.10	2.54½
	2	1892	19	M.	60	2.50	3.10	2.66½
	2	1893	22	M.	60	1.75	3.10	2.60
	2	1894	13	M.	60	2.25	2.79	2.49
	2	1895	8	M.	60	2.25	2.79	2.54½
	2	1896	25	M.	60	2.00	3.10	2.59½
	2	1897	11	M.	60	2.25	3.10	2.72½
	2	1898	20	M.	60	2.00	3.10	2.58
	2	1899	23	M.	60	2.00	3.10	2.61
	2	1900	38	M.	60	2.20	3.40	2.84½
Molders' helpers:								
Cleveland, Ohio.....	2	1890	28	M.	60	1.50	1.75	1.55
	2	1891	27	M.	60	1.50	1.75	1.54½
	2	1892	15	M.	60	1.50	1.60	1.50½

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

SHIPBUILDING—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Molders' helpers—Concluded.								
Cleveland, Ohio—Concl'd...	2	1894	15	M.	60	$1.35	$1.44	$1.35⅘
	2	1895	5	M.	60	1.35	1.35	1.35
	2	1896	13	M.	60	1.50	1.50	1.50
	2	1900	46	M.	60	1.50	2.00	1.51⅛
Pattern makers:								
Boston, Mass	1	1891	8	M.	60	2.50	3.00	2.85
	1	1892	9	M.	54	2.25	2.70	2.56⅛
	1	1899	21	M.	54	2.25	3.00	2.70
Cleveland, Ohio.....	2	1890	6	M.	60	2.00	2.85	2.51⅛
	2	1891	7	M.	60	2.25	3.00	2.64⅛
	2	1893	8	M.	60	2.00	3.00	2.65⅛
	2	1894	6	M.	60	2.02½	2.70	2.43⅛
	2	1895	4	M.	60	2.25	2.70	2.48⅛
	2	1896	7	M.	60	2.50	3.00	2.73
	2	1898	7	M.	60	2.50	3.00	2.67
	2	1899	6	M.	60	2.50	3.00	2.75
	2	1900	11	M.	60	2.50	3.50	2.79
SILK GOODS.								
Blockers:								
New York, N. Y	1	1891	15	M.	59	$0.54	$0.77	$0.61⅛
	1	1899	23	M.	59	.58⅓	.83⅓	.66⅔
Bunchers, ribbon:								
New York, N. Y	1	1891	25	F.	59	.46	.77⅛	.62⅛
	1	1898	32	F.	59	.46⅔	.79	.63⅓
	1	1899	36	F.	59	.50	.83⅓	.66⅔
Doublers:								
Paterson, N. J	2	1891	(a)	(a)	60	.50	1.00	(a)
	2	1899	(a)	(a)	55	.50	1.00	(a)
Dyers:								
New York, N. Y	1	1891	6	M.	59	1.83⅓	1.83⅓	1.83⅓
	1	1898	8	M.	59	1.90	1.90	1.90
	1	1899	9	M.	59	2.00	2.00	2.00
Quillers:								
Paterson, N. J	2	1891	(a)	(a)	60	.83⅓	1.16⅔	(a)
	2	1899	(a)	(a)	55	.83⅓	1.16⅔	(a)
Reelers:								
Paterson, N. J	2	1891	(a)	(a)	60	.41⅔	1.16⅔	(a)
	2	1899	(a)	(a)	55	.41⅔	1.16⅔	(a)
Spinners:								
New York, N. Y	1	1891	10	M.	59	1.54	1.54	1.54
	1	1898	13	M.	59	1.58⅓	1.58⅓	1.58⅓
	1	1899	15	M.	59	1.66⅔	1.66⅔	1.66⅔
Spoolers:								
New York, N. Y	1	1891	20	F.	59	.77⅛	1.08⅓	.91⅓
	1	1898	27	F.	59	.79	1.11	.96
	1	1899	30	F.	59	.83⅓	1.16⅔	1.00
Warpers:								
New York, N. Y	1	1891	20	F.	59	.77⅛	1.08⅓	.91⅓
	1	1898	32	F.	59	.79	1.11	.96
	1	1899	36	F.	59	.83⅓	1.16⅔	1.00
Paterson, N. J	2	1891	(a)	(a)	60	1.16⅔	2.50	(a)
	2	1899	(a)	(a)	55	1.16⅔	2.50	(a)
Weavers:								
New York, N. Y	1	1891	125	M.	59	1.55	2.77⅛	2.16⅔
	1	1898	170	M.	59	1.56⅔	2.82	2.19
	1	1899	190	M.	59	1.66⅔	3.00	2.33⅓
Paterson, N. J	2	1891	(a)	(a)	60	1.08⅓	3.00	(a)
	2	1900	(a)	(a)	55	1.20	3.33⅓	(a)
Weavers' helpers:								
New York, N. Y	1	1891	25	M.	59	.93	1.39⅓	1.16⅔
	1	1898	34	M.	59	.94⅓	1.42	1.18
	1	1899	38	M.	59	1.00	1.50	1.25

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

SILK GOODS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Winders:								
New York, N. Y	1	1891	20	F.	59	$0.77½	$1.08½	$0.91½
	1	1898	27	F.	59	.79	1.11	.96
	1	1899	30	F.	59	.83½	1.16½	1.00
Paterson, N. J	2	1891	(a)	(a)	60	.50	1.33½	(a)
	2	1899	(a)	(a)	55	.50	1.33½	(a)

STEAM RAILROADS.

[The seven roads reporting are all in the northern and eastern sections of the United States.]

Baggage men, train	3	1894	87	M.	(a)	$1.75	$2.48	$2.14
	3	1895	87	M.	(a)	1.90	2.40	2.14
	3	1896	88	M.	(a)	1.80	2.40	2.13½
	3	1898	100	M.	(a)	1.78	2.40	2.13
	3	1899	96	M.	(a)	1.80	2.40	2.13½
	5	1894	84	M.	(a)	1.80	2.30	2.20½
	5	1897	77	M.	(a)	1.90	2.85	2.25
	5	1898	76	M.	(a)	1.90	2.30	2.25½
	5	1899	61	M.	(a)	2.00	2.30	2.29
	6	1891	41	M.	(a)	2.00	2.11	2.05
Brakemen	4	1891	1,202	M.	(a)	1.40	2.00	1.85
	4	1893	1,418	M.	(a)	1.42	2.00	1.86
	4	1896	1,699	M.	(a)	1.50	2.20	1.86
	4	1900	1,746	M.	(a)	1.50	2.20	1.85
Brakemen, freight	3	1894	640	M.	(a)	1.63	2.65	2.02
	3	1895	675	M.	(a)	1.63	2.00	1.94
	3	1898	713	M.	(a)	1.58	2.00	1.93½
	3	1899	684	M.	(a)	1.58	2.00	1.94
	3	1900	826	M.	(a)	1.58	2.20	1.96½
	3	1894	425	M.	(a)	b.15	b.178	b.1571
	3	1895	424	M.	(a)	b.15	b.160	b.1581
Brakemen, freight and shifting	5	1894	1,828	M.	(a)	1.65	2.30	1.73½
	5	1895	1,894	M.	(a)	1.65	2.30	1.71½
	5	1897	1,657	M.	(a)	1.65	2.30	1.73
	5	1898	1,580	M.	(a)	1.65	2.30	1.72½
	5	1900	1,578	M.	(a)	1.65	2.30	1.77½
Brakemen, freight and yard	6	1891	392	M.	(a)	1.75	2.00	1.87½
Brakemen, passenger	3	1894	184	M.	(a)	1.63	2.60	1.92½
	3	1895	195	M.	(a)	1.50	2.00	1.79
	3	1896	197	M.	(a)	1.50	2.00	1.78½
	3	1898	202	M.	(a)	1.50	2.00	1.79½
	3	1899	185	M.	(a)	1.50	2.25	1.80½
	3	1900	198	M.	(a)	1.50	2.25	1.80
	5	1894	143	M.	(a)	1.65	1.85	1.77½
	5	1895	114	M.	(a)	1.65	2.00	1.83½
	5	1896	113	M.	(a)	1.65	2.00	1.84½
	5	1897	114	M.	(a)	1.70	2.00	1.85
	5	1898	104	M.	(a)	1.70	2.00	1.85½
	5	1899	87	M.	(a)	1.70	2.00	1.87½
	5	1900	83	M.	(a)	1.80	2.00	1.88½
	6	1891	116	M.	(a)	1.75	2.00	1.89
Carpenters	1	1890	990	M.	(a)	(a)	(a)	1.92½
	1	1891	1,229	M.	(a)	(a)	(a)	1.57½
	1	1892	1,157	M.	(a)	(a)	(a)	1.71
	1	1893	1,056	M.	(a)	(a)	(a)	1.67
	1	1894	883	M.	(a)	(a)	(a)	1.65
	1	1895	772	M.	(a)	(a)	(a)	1.94
	1	1896	855	M.	(a)	(a)	(a)	1.73½
	1	1897	915	M.	(a)	(a)	(a)	2.08
	1	1898	822	M.	(a)	(a)	(a)	1.92½
	1	1899	749	M.	(a)	(a)	(a)	1.98
	2	1890	551	M.	(a)	(a)	(a)	1.86
	2	1891	564	M.	(a)	(a)	(a)	1.84

a Not reported. b Per hour.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continue

[Rates of wages are given for the first year for which they were obtainable and for each succee year in which changes in rates occurred up to April, 1900. For example, when under any occup only one date is shown, it is to be understood that there was no change in number of employe rates of wages up to April, 1900. In occupations where employees are paid by the piece average earnings have been computed wherever possible.]

STEAM RAILROADS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per da		
						Lowest.	Highest.	Ave
Carpenters—Concluded	2	1892	577	M.	(a)	(a)	(a)	$1
	2	1893	529	M.	(a)	(a)	(a)	1
	2	1894	489	M.	(a)	(a)	(a)	1
	2	1895	464	M.	(a)	(a)	(a)	1
	2	1896	472	M.	(a)	(a)	(a)	1
	2	1898	450	M.	(a)	(a)	(a)	1
	2	1899	541	M.	(a)	(a)	(a)	1
	2	1900	507	M.	(a)	(a)	(a)	2
	7	1894	871	M.	(a)	(a)	(a)	2
	7	1895	978	M.	(a)	(a)	(a)	2
	7	1896	943	M.	(a)	(a)	(a)	2
	7	1897	889	M.	(a)	(a)	(a)	2
	7	1900	(a)	(a)	(a)	(a)	(a)	(
Conductors	1	1890	606	M.	(a)	(a)	(a)	2
	1	1891	651	M.	(a)	(a)	(a)	2
	1	1892	691	M.	(a)	(a)	(a)	2
	1	1893	621	M.	(a)	(a)	(a)	2
	1	1894	591	M.	(a)	(a)	(a)	2
	1	1895	585	M.	(a)	(a)	(a)	2
	1	1896	605	M.	(a)	(a)	(a)	2
	1	1897	568	M.	(a)	(a)	(a)	2
	1	1898	613	M.	(a)	(a)	(a)	2
	1	1899	600	M.	(a)	(a)	(a)	2
	2	1890	273	M.	(a)	(a)	(a)	2
	2	1891	280	M.	(a)	(a)	(a)	2
	2	1892	284	M.	(a)	(a)	(a)	2
	2	1893	292	M.	(a)	(a)	(a)	2
	2	1894	250	M.	(a)	(a)	(a)	2
	2	1896	195	M.	(a)	(a)	(a)	2
	2	1897	235	M.	(a)	(a)	(a)	2
	2	1898	261	M.	(a)	(a)	(a)	2
	2	1899	305	M.	(a)	(a)	(a)	2
	2	1900	275	M.	(a)	(a)	(a)	2
	4	1891	374	M.	(a)	$1.75	$3.84	2
	4	1893	476	M.	(a)	2.07	3.84	2
	4	1895	502	M.	(a)	2.00	3.84	2
	4	1896	592	M.	(a)	2.00	4.00	2
	4	1899	604	M.	(a)	2.00	4.00	2
	4	1900	623	M.	(a)	2.00	4.00	2
	7	1894	542	M.	(a)	(a)	(a)	3
	7	1895	574	M.	(a)	(a)	(a)	3
	7	1896	617	M.	(a)	(a)	(a)	3
	7	1897	584	M.	(a)	(a)	(a)	3
	7	1899	732	M.	(a)	(a)	(a)	3
	7	1900	(a)	(a)	(a)	(a)	(a)	(
Conductors, freight	3	1894	203	M.	(a)	2.03	3.00	2
	3	1895	221	M.	(a)	2.03	3.00	2
	3	1896	220	M.	(a)	2.03	3.00	2
	3	1898	239	M.	(a)	2.03	3.00	2
	3	1899	236	M.	(a)	2.03	3.00	2
	3	1900	248	M.	(a)	2.00	3.00	2
	3	1894	116	M.	(a)	b .1700	b .1910	b
Conductors, freight and shifting	5	1894	512	M.	(a)	1.75	2.50	2
	5	1895	542	M.	(a)	1.75	3.05	2
	5	1896	534	M.	(a)	1.90	2.50	2
	5	1897	486	M.	(a)	1.90	2.50	2
	5	1898	494	M.	(a)	2.15	2.50	2
	5	1899	533	M.	(a)	2.15	2.50	2
Conductors, freight and yard	6	1891	86	M.	(a)	2.30	2.88	2
	6	1899	128	M.	(a)	2.50	3.00	2
Conductors, passenger	3	1894	122	M.	(a)	2.25	3.69	3
	3	1895	129	M.	(a)	2.20	3.69	3
	3	1897	136	M.	(a)	2.20	3.69	3
	3	1898	132	M.	(a)	2.25	3.69	3
	3	1900	138	M.	(a)	2.25	3.69	3
	5	1894	88	M.	(a)	2.00	3.25	2
	5	1895	88	M.	(a)	2.13½	3.50	3

a Not reported. b Per hour.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STEAM RAILROADS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Conductors, passenger—Concl'd.	5	1896	82	M.	(a)	$2.13½	$3.50	$3.08½
	5	1897	81	M.	(a)	1.97½	3.50	3.11
	5	1898	84	M.	(a)	1.97½	3.50	3.16
	5	1899	64	M.	(a)	2.15	3.50	3.23
	5	1900	65	M.	(a)	2.15	3.50	3.26½
	6	1891	51	M.	(a)	2.88	3.84	3.77
	6	1900	58	M.	(a)	3.20	3.84	3.83
Engineers, locomotive	1	1890	1,012	M.	(a)	(a)	(a)	3.25½
	1	1891	1,038	M.	(a)	(a)	(a)	3.35
	1	1892	1,108	M.	(a)	(a)	(a)	3.24½
	1	1893	1,008	M.	(a)	(a)	(a)	3.28
	1	1895	921	M.	(a)	(a)	(a)	3.47½
	1	1896	938	M.	(a)	(a)	(a)	3.46½
	1	1897	922	M.	(a)	(a)	(a)	3.49
	1	1898	977	M.	(a)	(a)	(a)	3.45½
	1	1899	1,009	M.	(a)	(a)	(a)	3.49½
	2	1890	438	M.	(a)	(a)	(a)	3.33
	2	1891	445	M.	(a)	(a)	(a)	3.34
	2	1893	473	M.	(a)	(a)	(a)	3.31
	2	1894	373	M.	(a)	(a)	(a)	3.33
	2	1899	433	M.	(a)	(a)	(a)	3.34
	2	1900	467	M.	(a)	(a)	(a)	3.37
	4	1891	481	M.	(a)	2.00	3.50	3.13
	4	1893	558	M.	(a)	2.20	3.50	3.19
	4	1895	544	M.	(a)	2.20	4.08	3.22
	4	1898	714	M.	(a)	2.20	4.50	3.22
	4	1899	712	M.	(a)	2.20	4.50	3.19
	4	1900	739	M.	(a)	2.25	4.50	3.22
	6	1891	161	M.	(a)	3.45	4.00	3.84½
	6	1900	198	M.	(a)	3.60	4.00	3.88½
	6	1891	11	M.	(a)	b.0350	b.0350	b.0350
	6	1899	60	M.	(a)	b.0350	b.0400	b.0358
	7	1894	698	M.	(a)	(a)	(a)	3.85
	7	1895	746	M.	(a)	(a)	(a)	3.86
	7	1896	785	M.	(a)	(a)	(a)	3.82
	7	1897	768	M.	(a)	(a)	(a)	3.84
	7	1898	752	M.	(a)	(a)	(a)	3.86
	7	1899	963	M.	(a)	(a)	(a)	3.82
	7	1900	(a)	(a)	(a)	(a)	(a)	(a)
Engineers, locomotive, freight	3	1894	222	M.	(a)	2.57	4.26	3.24
	3	1895	242	M.	(a)	2.47	4.26	3.29½
	3	1896	233	M.	(a)	2.47	4.26	3.27½
	3	1897	212	M.	(a)	2.47	4.26	3.34½
	3	1898	241	M.	(a)	2.43	4.26	3.29
	3	1899	253	M.	(a)	2.47	3.69	3.28½
	3	1900	283	M.	(a)	2.47	3.75	3.29½
	3	1894	138	M.	(a)	c.2000	c.2800	c.2546
	3	1896	148	M.	(a)	c.2000	c.2800	c.2603
	3	1897	143	M.	(a)	c.2100	c.2800	c.2614
	3	1898	163	M.	(a)	c.2100	c.2800	c.2560
	3	1899	122	M.	(a)	c.2000	c.2800	c.2610
	3	1900	120	M.	(a)	c.2100	c.2800	c.2598
Engineers, locomotive, freight and shifting	5	1894	593	M.	(a)	2.25	3.25	3.15
	5	1898	616	M.	(a)	2.25	3.25	3.16
	5	1899	671	M.	(a)	2.50	3.50	3.10
	5	1900	582	M.	(a)	2.50	3.50	3.13
Engineers, locomotive, passenger	3	1894	137	M.	(a)	2.75	4.00	3.20
	3	1896	138	M.	(a)	2.75	4.00	3.19
	3	1898	158	M.	(a)	2.75	4.00	3.20½
	3	1899	146	M.	(a)	2.75	4.07	3.21½
	3	1900	153	M.	(a)	2.75	5.50	3.88
	5	1894	117	M.	(a)	2.75	3.50	3.25½
	5	1895	123	M.	(a)	3.00	3.50	3.28
	5	1897	125	M.	(a)	3.00	3.50	3.27½
	5	1898	123	M.	(a)	2.75	3.50	3.27
	5	1899	91	M.	(a)	2.75	3.50	3.27½
	5	1900	91	M.	(a)	3.25	3.50	3.28½

a Not reported. b Per mile. c Per hour.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average earnings have been computed wherever possible.]

STEAM RAILROADS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day		
						Lowest.	Highest.	Average.
Firemen, locomotive	1	1890	1,090	M.	(a)	(a)	(a)	$1
	1	1891	1,094	M.	(a)	(a)	(a)	1
	1	1892	1,165	M.	(a)	(a)	(a)	1
	1	1893	1,083	M.	(a)	(a)	(a)	1
	1	1894	1,022	M.	(a)	(a)	(a)	1
	1	1895	987	M.	(a)	(a)	(a)	2
	1	1896	1,024	M.	(a)	(a)	(a)	2
	1	1897	998	M.	(a)	(a)	(a)	2
	1	1898	1,042	M.	(a)	(a)	(a)	2
	1	1899	1,072	M.	(a)	(a)	(a)	2
	2	1890	419	M.	(a)	(a)	(a)	2
	2	1891	420	M.	(a)	(a)	(a)	2
	2	1892	437	M.	(a)	(a)	(a)	2
	2	1893	459	M.	(a)	(a)	(a)	2
	2	1896	271	M.	(a)	(a)	(a)	2
	2	1897	310	M.	(a)	(a)	(a)	2
	2	1899	471	M.	(a)	(a)	(a)	2
	2	1900	480	M.	(a)	(a)	(a)	2
	4	1891	508	M.	(a)	$1.40	$2.10	1
	4	1893	563	M.	(a)	1.50	2.10	1
	4	1895	556	M.	(a)	1.50	2.50	1
	4	1899	700	M.	(a)	1.50	2.50	1
	4	1900	741	M.	(a)	1.60	2.50	1
	6	1891	185	M.	(a)	1.75	2.25	2
	6	1899	228	M.	(a)	1.50	2.25	2
	6	1891	35	M.	(a)	b.0200	b.0200	b
	6	1899	53	M.	(a)	b.0200	b.0225	b
	7	1894	690	M.	(a)	(a)	(a)	2
	7	1896	785	M.	(a)	(a)	(a)	2
	7	1897	743	M.	(a)	(a)	(a)	2
	7	1898	747	M.	(a)	(a)	(a)	2
	7	1900	(a)	(a)	(a)	(a)	(a)	(a)
Firemen, locomotive, freight	3	1894	212	M.	(a)	1.70	2.70	2
	3	1895	233	M.	(a)	1.70	2.10	2
	3	1896	230	M.	(a)	1.83	2.10	2
	3	1897	215	M.	(a)	1.70	2.10	2
	3	1898	216	M.	(a)	1.58	2.10	2
	3	1899	238	M.	(a)	1.70	2.10	2
	3	1900	281	M.	(a)	1.60	2.20	2
	3	1894	137	M.	(a)	c.1600	c.1930	c
	3	1895	138	M.	(a)	c.1500	c.1750	c
	3	1896	137	M.	(a)	c.1500	c.1750	c
	3	1897	142	M.	(a)	c.1500	c.1750	c
	3	1900	128	M.	(a)	c.1500	c.1750	c
Firemen, locomotive, freight and shifting	5	1894	587	M.	(a)	1.50	2.40	2
	5	1895	620	M.	(a)	1.60	2.75	2
	5	1896	634	M.	(a)	1.60	2.75	2
	5	1897	637	M.	(a)	1.60	2.40	2
	5	1898	650	M.	(a)	1.75	2.30	2
	5	1899	659	M.	(a)	1.60	2.30	1
	5	1900	697	M.	(a)	1.40	2.75	2
Firemen, locomotive, passenger	3	1894	126	M.	(a)	1.83	2.75	2
	3	1895	138	M.	(a)	1.83	2.10	2
	3	1896	146	M.	(a)	1.80	2.10	2
	3	1898	158	M.	(a)	1.70	2.10	2
	3	1899	147	M.	(a)	1.70	2.62	2
	3	1900	144	M.	(a)	1.70	3.15	2
	5	1894	131	M.	(a)	1.90	2.40	2
	5	1895	116	M.	(a)	2.00	2.40	2
	5	1896	131	M.	(a)	1.90	2.40	2
	5	1897	120	M.	(a)	1.90	2.40	2
	5	1898	108	M.	(a)	2.10	2.40	2
	5	1899	88	M.	(a)	1.90	2.40	2
	5	1900	88	M.	(a)	2.00	2.40	2
Machinists	1	1890	763	M.	(a)	(a)	(a)	2
	1	1891	697	M.	(a)	(a)	(a)	1
	1	1892	732	M.	(a)	(a)	(a)	1

a Not reported. b Per mile. c Per hour.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STEAM RAILROADS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Machinists—Concluded	1	1893	626	M.	(a)	(a)	(a)	$1.88½
	1	1894	693	M.	(a)	(a)	(a)	1.77½
	1	1895	786	M.	(a)	(a)	(a)	2.07½
	1	1896	798	M.	(a)	(a)	(a)	2.12
	1	1897	835	M.	(a)	(a)	(a)	2.16
	1	1898	841	M.	(a)	(a)	(a)	2.10
	1	1899	843	M.	(a)	(a)	(a)	2.18½
	2	1890	243	M.	(a)	(a)	(a)	2.17
	2	1891	250	M.	(a)	(a)	(a)	2.18
	2	1892	262	M.	(a)	(a)	(a)	2.14
	2	1893	253	M.	(a)	(a)	(a)	2.16
	2	1894	240	M.	(a)	(a)	(a)	2.22
	2	1895	237	M.	(a)	(a)	(a)	2.16
	2	1896	216	M.	(a)	(a)	(a)	2.20
	2	1897	205	M.	(a)	(a)	(a)	2.19
	2	1898	215	M.	(a)	(a)	(a)	2.22
	2	1900	253	M.	(a)	(a)	(a)	2.28
	7	1894	443	M.	(a)	(a)	(a)	2.40
	7	1895	434	M.	(a)	(a)	(a)	2.41
	7	1896	477	M.	(a)	(a)	(a)	2.42
	7	1897	479	M.	(a)	(a)	(a)	2.41
	7	1898	463	M.	(a)	(a)	(a)	2.40
	7	1899	554	M.	(a)	(a)	(a)	2.37
	7	1900	(a)	(a)	(a)	(a)	(a)	(a)
Section foremen	1	1890	365	M.	(a)	(a)	(a)	1.76½
	1	1891	370	M.	(a)	(a)	(a)	1.53½
	1	1892	358	M.	(a)	(a)	(a)	1.53
	1	1893	315	M.	(a)	(a)	(a)	1.49
	1	1894	354	M.	(a)	(a)	(a)	1.50
	1	1895	346	M.	(a)	(a)	(a)	1.56½
	1	1896	354	M.	(a)	(a)	(a)	1.60
	1	1897	359	M.	(a)	(a)	(a)	1.60½
	1	1898	353	M.	(a)	(a)	(a)	1.70
	1	1899	364	M.	(a)	(a)	(a)	1.63½
	2	1890	166	M.	(a)	(a)	(a)	1.82
	2	1891	172	M.	(a)	(a)	(a)	1.77
	2	1892	168	M.	(a)	(a)	(a)	1.78
	2	1893	167	M.	(a)	(a)	(a)	1.79
	2	1895	162	M.	(a)	(a)	(a)	1.78
	2	1896	170	M.	(a)	(a)	(a)	1.79
	2	1898	148	M.	(a)	(a)	(a)	1.78
	2	1899	158	M.	(a)	(a)	(a)	1.80
	2	1900	150	M.	(a)	(a)	(a)	1.82
	3	1894	199	M.	60	$1.46	$2.87½	1.83
	3	1895	218	M.	60	1.46	2.87½	1.81
	3	1896	216	M.	60	1.46	2.87½	1.82½
	3	1897	218	M.	60	1.46	2.87½	1.81
	3	1898	207	M.	60	1.46	2.87½	1.89½
	3	1899	221	M.	60	1.46	2.87½	1.82
	3	1900	227	M.	60	1.46	2.87½	1.86
	5	1894	236	M.	60	1.35	2.87½	1.76
	5	1895	224	M.	60	1.35	2.87½	1.81½
	5	1897	227	M.	60	1.35	2.87½	1.80
	5	1898	216	M.	60	1.35	2.87½	1.77½
	5	1899	210	M.	60	1.25	2.87½	1.80
Section men	3	1894	1,239	M.	60	1.00	1.60	1.26
	3	1898	1,108	M.	60	1.00	1.60	1.24
	3	1899	1,218	M.	60	1.10	1.60	1.22½
	3	1900	1,311	M.	60	1.10	1.60	1.26½
	5	1894	1,501	M.	60	1.00	1.50	1.17
	5	1895	1,640	M.	60	1.00	1.50	1.20½
	5	1896	1,686	M.	60	1.20	2.00	1.20½
	5	1898	970	M.	60	1.00	1.30	1.20
	5	1899	1,052	M.	60	1.00	1.20	1.19½
	5	1900	1,475	M.	60	1.00	1.25	1.20
Shopmen, other than carpenters and machinists	1	1890	2,955	M.	(a)	(a)	(a)	1.50
	1	1891	2,706	M.	(a)	(a)	(a)	1.35
	1	1892	3,022	M.	(a)	(a)	(a)	1.48

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeed year in which changes in rates occurred up to April, 1900. For example, when under any occupa only one date is shown, it is to be understood that there was no change in number of employee rates of wages up to April, 1900. In occupations where employees are paid by the piece average d earnings have been computed wherever possible.]

STEAM RAILROADS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day		
						Lowest.	Highest.	Aver
Shopmen, other than carpenters and machinists—Concluded ..	1	1893	2,764	M.	(a)	(a)	(a)	$1.
	1	1894	2,609	M.	(a)	(a)	(a)	1.
	1	1895	3,012	M.	(a)	(a)	(a)	1.
	1	1896	3,538	M.	(a)	(a)	(a)	1.
	1	1897	3,805	M.	(a)	(a)	(a)	1.
	1	1898	3,496	M.	(a)	(a)	(a)	1.
	1	1899	3,561	M.	(a)	(a)	(a)	1.
	2	1890	726	M.	(a)	(a)	(a)	1.
	2	1891	804	M.	(a)	(a)	(a)	1.
	2	1892	796	M.	(a)	(a)	(a)	1.
	2	1893	696	M.	(a)	(a)	(a)	1.
	2	1894	640	M.	(a)	(a)	(a)	1.
	2	1895	648	M.	(a)	(a)	(a)	1.
	2	1896	619	M.	(a)	(a)	(a)	1.
	2	1898	560	M.	(a)	(a)	(a)	1.
	2	1899	981	M.	(a)	(a)	(a)	1.
	2	1900	868	M.	(a)	(a)	(a)	1.
Signalmen	5	1894	31	M.	84	$1.20	$1.81	1.
	5	1895	27	M.	84	1.20	1.64½	1.
	5	1896	28	M.	84	1.20	1.64½	1.
	5	1897	38	M.	84	1.25	1.97½	1.
	5	1899	22	M.	84	1.25	1.64½	1.
	5	1900	31	M.	84	1.25	1.64½	1.
Station agents	1	1890	428	M.	(a)	(a)	(a)	1.
	1	1891	414	M.	(a)	(a)	(a)	1.
	1	1892	421	M.	(a)	(a)	(a)	1.
	1	1893	383	M.	(a)	(a)	(a)	1.
	1	1894	432	M.	(a)	(a)	(a)	1.
	1	1895	436	M.	(a)	(a)	(a)	1.
	1	1896	431	M.	(a)	(a)	(a)	1.
	1	1897	481	M.	(a)	(a)	(a)	1.
	1	1898	461	M.	(a)	(a)	(a)	1.
	1	1899	450	M.	(a)	(a)	(a)	1.
Station men, other than station agents	1	1890	1,374	M.	(a)	(a)	(a)	1.
	1	1891	1,586	M.	(a)	(a)	(a)	1.
	1	1892	1,685	M.	(a)	(a)	(a)	1.
	1	1893	1,452	M.	(a)	(a)	(a)	1.
	1	1894	1,480	M.	(a)	(a)	(a)	1.
	1	1895	1,279	M.	(a)	(a)	(a)	1.
	1	1896	1,340	M.	(a)	(a)	(a)	1.
	1	1897	1,267	M.	(a)	(a)	(a)	1.
	1	1898	1,367	M.	(a)	(a)	(a)	1.
	1	1899	1,301	M.	(a)	(a)	(a)	1.
Switchmen	3	1894	149	M.	84	.76¼	2.13¼	1.
	3	1895	164	M.	84	.76¼	2.13¼	1.
	3	1896	173	M.	84	.76¼	2.13¼	1.
	3	1897	146	M.	84	.76¼	2.13¼	1.
	3	1898	141	M.	84	.85	2.13¼	1.
	3	1899	144	M.	84	.85	2.13¼	1.
	3	1900	154	M.	84	.85	2.13¼	1.
	5	1894	216	M.	(b)	.90	2.25	1.
	5	1895	210	M.	(b)	.90	2.10½	1.
	5	1896	215	M.	(b)	.90	2.10½	1.
	5	1897	188	M.	(b)	.90	2.10½	1.
	5	1898	177	M.	(b)	.90	2.10½	1.
	5	1899	194	M.	(b)	.90	2.10½	1.
	5	1900	172	M.	(b)	.90	2.10½	1.
Switchmen and tower men.....	6	1891	133	M.	(a)	1.48	2.68	1.
	6	1899	121	M.	(a)	1.50	2.68	1.
	6	1900	107	M.	(a)	1.50	2.68	1.
Switchmen, flagmen, and watchmen	1	1890	1,472	M.	(a)	(a)	(a)	1.
	1	1891	1,637	M.	(a)	(a)	(a)	1.
	1	1892	1,687	M.	(a)	(a)	(a)	1.
	1	1893	1,455	M.	(a)	(a)	(a)	1.
	1	1894	1,417	M.	(a)	(a)	(a)	1.

a Not reported.

b 70 to 84 hours per week.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STEAM RAILROADS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Switchmen, flagmen, and watchmen—Concluded	1	1895	1,437	M.	(a)	(a)	(a)	$1.90
	1	1896	1,557	M.	(a)	(a)	(a)	1.87
	1	1897	1,559	M.	(a)	(a)	(a)	1.82½
	1	1898	1,624	M.	(a)	(a)	(a)	1.87
	1	1899	1,440	M.	(a)	(a)	(a)	1.79
	2	1890	360	M.	(a)	(a)	(a)	1.42
	2	1891	399	M.	(a)	(a)	(a)	1.43
	2	1892	423	M.	(a)	(a)	(a)	1.40
	2	1893	464	M.	(a)	(a)	(a)	1.43
	2	1894	432	M.	(a)	(a)	(a)	1.47
	2	1895	462	M.	(a)	(a)	(a)	1.44
	2	1897	450	M.	(a)	(a)	(a)	1.43
	2	1898	423	M.	(a)	(a)	(a)	1.45
	2	1899	490	M.	(a)	(a)	(a)	1.42
	2	1900	(a)	(a)	(a)	(a)	(a)	(a)
Telegraph operators and dispatchers	1	1890	577	M.	(a)	(a)	(a)	1.60
	1	1891	566	M.	(a)	(a)	(a)	1.73½
	1	1892	709	M.	(a)	(a)	(a)	1.68½
	1	1893	764	M.	(a)	(a)	(a)	1.68
	1	1894	792	M.	(a)	(a)	(a)	1.78½
	1	1895	779	M.	(a)	(a)	(a)	1.73
	1	1896	777	M.	(a)	(a)	(a)	1.61
	1	1897	794	M.	(a)	(a)	(a)	1.76½
	1	1898	792	M.	(a)	(a)	(a)	1.76
Track laborers	2	1890	1,547	M.	(a)	(a)	(a)	1.21
	2	1892	1,232	M.	(a)	(a)	(a)	1.20
	2	1893	1,246	M.	(a)	(a)	(a)	1.21
	2	1896	1,068	M.	(a)	(a)	(a)	1.22
	2	1897	966	M.	(a)	(a)	(a)	1.21
	2	1900	1,023	M.	(a)	(a)	(a)	1.20
Track men, other than section foremen	1	1890	2,196	M.	(a)	(a)	(a)	1.19½
	1	1891	2,471	M.	(a)	(a)	(a)	1.11
	1	1892	2,281	M.	(a)	(a)	(a)	1.07
	1	1893	1,980	M.	(a)	(a)	(a)	1.04
	1	1894	2,006	M.	(a)	(a)	(a)	1.05
	1	1895	2,052	M.	(a)	(a)	(a)	1.14
	1	1896	2,382	M.	(a)	(a)	(a)	1.25½
	1	1897	2,555	M.	(a)	(a)	(a)	1.14½
	1	1898	2,731	M.	(a)	(a)	(a)	1.14
	1	1899	2,607	M.	(a)	(a)	(a)	1.13½
Train men, other than conductors	1	1890	2,030	M.	(a)	(a)	(a)	1.72½
	1	1891	2,170	M.	(a)	(a)	(a)	1.74½
	1	1892	2,337	M.	(a)	(a)	(a)	1.75½
	1	1893	2,025	M.	(a)	(a)	(a)	1.77
	1	1894	1,892	M.	(a)	(a)	(a)	1.80
	1	1895	1,747	M.	(a)	(a)	(a)	1.70½
	1	1896	1,681	M.	(a)	(a)	(a)	1.75
	1	1897	1,665	M.	(a)	(a)	(a)	1.87
	1	1898	1,783	M.	(a)	(a)	(a)	1.88½
	1	1899	1,731	M.	(a)	(a)	(a)	1.85½
	2	1890	1,235	M.	(a)	(a)	(a)	1.92
	2	1892	1,315	M.	(a)	(a)	(a)	1.95
	2	1893	1,403	M.	(a)	(a)	(a)	1.96
	2	1894	1,096	M.	(a)	(a)	(a)	2.04
	2	1896	854	M.	(a)	(a)	(a)	2.06
	2	1897	943	M.	(a)	(a)	(a)	2.05
	2	1900	(a)	M.	(a)	(a)	(a)	(a)

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STONE QUARRYING AND CUTTING.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Granite cutters:								
Buffalo, N. Y	2	1891	44	M.	48	$3.04	$3.04	$3.04
New York, N. Y	3	1891	50	M.	44	4.75	4.75	4.75
	3	1898	42	M.	44	4.00	4.00	4.00
Philadelphia, Pa	4	1891	140	M.	54	3.25	3.25	3.25
	4	1899	130	M.	54	3.00	3.00	3.00
	4	1900	120	M.	48	3.00	3.00	3.00
Quincy, Mass	5	1891	45	M.	54	2.79	3.24	3.01
	5	1892	25	M.	54	2.52	3.15	2.94½
	5	1894	12	M.	54	2.43	3.00	2.59½
	5	1895	20	M.	54	2.25	2.70	2.62½
	5	1896	26	M.	54	2.25	2.83½	2.69
	5	1897	28	M.	54	2.52	2.83½	2.70½
	5	1898	25	M.	54	2.25	2.83½	2.57½
	5	1899	50	M.	54	2.25	3.00	2.55½
	5	1900	54	M.	54	2.25	2.83½	2.57
Worcester, Mass	7	1891	67	M.	53	3.00½	3.00½	3.00½
	7	1893	79	M.	56	1.86½	3.17½	3.03½
	7	1894	27	M.	53	1.98½	2.70	2.51½
	7	1896	91	M.	53	2.70	2.70	2.70
	7	1897	105	M.	53	2.60½	2.70	2.68½
	7	1898	208	M.	53	1.98½	2.70	2.67
	7	1899	92	M.	53	1.98½	2.67	2.66
	7	1900	54	M.	48	1.92	2.72	2.62½
Quarrymen:								
Quincy, Mass	5	1891	63	M.	54	1.71	2.11½	1.94
	5	1892	59	M.	54	1.80	2.11½	1.91
	5	1899	38	M.	54	1.80	2.25	1.96
Rocklin, Cal	6	1890	16	M.	54	2.50	2.50	2.50
	6	1893	20	M.	48	2.00	2.00	2.00
	6	1899	10	M.	48	2.25	2.25	2.25
	6	1900	12	M.	48	2.25	2.50	2.33½
Stonecutters:								
Birmingham, Ala	1	1890	15	M.	54	3.60	3.60	3.60
	1	1893	12	M.	54	2.70	2.70	2.70
	1	1898	17	M.	60	3.00	3.00	3.00
	1	1899	20	M.	54	3.15	3.15	3.15
	1	1900	20	M.	54	3.60	3.60	3.60
Buffalo, N. Y	2	1891	80	M.	48	3.04	3.52	3.33
Philadelphia, Pa	4	1891	145	M.	54	3.50	3.50	3.50
	4	1896	160	M.	50	3.50	3.50	3.50
Rocklin, Cal	6	1890	14	M.	54	3.00	3.00	3.00
	6	1893	16	M.	48	2.75	2.75	2.75
	6	1900	15	M.	48	3.60	3.60	3.60

STREET RAILWAYS.

Blacksmiths and machinists:								
Cleveland, Ohio	6	1893	40	M.	a10	$2.00	$2.00	$2.00
	6	1897	60	M.	a10	2.25	2.25	2.25
Carpenters:								
Cleveland, Ohio	6	1893	8	M.	a10	2.00	2.00	2.00
	6	1897	15	M.	a10	2.25	2.25	2.25
Car repairers:								
Buffalo, N. Y	4	1891	30	M.	a10	1.50	1.50	1.50
	4	1892	40	M.	a10	1.60	2.00	1.80
	4	1893	50	M.	a10	1.75	1.75	1.75
Conductors:								
Atlanta, Ga	1	1890	113	M.	72	1.80	1.80	1.80
	1	1893	125	M.	72	1.44	1.44	1.44
	1	1899	174	M.	72	1.56	1.80	1.71
Augusta, Ga	2	1890	26	M.	84	1.20	1.56	1.40
	2	1893	28	M.	84	1.20	1.44	1.33½
	2	1899	27	M.	84	1.20	1.56	1.41

a Per day; days per week not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STREET RAILWAYS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Conductors—Concluded.								
Birmingham, Ala	3	1890	75	M.	70	$1.50	$2.00	$1.55½
	3	1892	75	M.	70	1.50	1.75	1.52½
Buffalo, N. Y	4	1891	402	M.	a 11	1.65	1.65	1.65
	4	1892	415	M.	a 11	1.65	1.98	1.90
	4	1895	436	M.	a 9	1.35	1.62	1.55
	4	1896	450	M.	a 9½	1.46½	1.75½	1.68
	4	1897	470	M.	a 9	1.35	1.62	1.55
	4	1898	450	M.	a 9½	1.46½	1.75½	1.68
Charlotte, N. C	5	1891	8	M.	96	1.00	1.00	1.00
	5	1896	9	M.	96	1.15	1.15	1.15
	5	1899	12	M.	90	1.15	1.20	1.16½
	5	1900	18	M.	72	1.15	1.30	1.20
Cleveland, Ohio	6	1893	175	M.	a 10	1.75	1.75	1.75
	6	1894	175	M.	a 10	2.00	2.00	2.00
	6	1895	198	M.	a 10	1.80	1.80	1.80
	6	1897	204	M.	a 10	2.00	2.00	2.00
Electricians:								
Buffalo, N. Y	4	1891	6	M.	a 12	2.50	2.50	2.50
	4	1895	15	M.	a 10	2.50	2.50	2.50
Engineers, stationary:								
Buffalo, N. Y	4	1891	3	M.	a 12	2.25	2.25	2.25
	4	1895	6	M.	a 8	2.25	2.25	2.25
	4	1896	6	M.	a 8	2.50	2.50	2.50
Cleveland, Ohio	6	1893	4	M.	a 10	2.50	2.50	2.50
Firemen, stationary:								
Cleveland, Ohio	6	1893	5	M.	a 10	1.75	1.75	1.75
	6	1895	9	M.	a 10	1.65	1.65	1.65
Laborers:								
Buffalo, N. Y	4	1891	165	M.	a 10	1.50	1.50	1.50
Cleveland, Ohio	6	1893	100	M.	a 10	1.45	1.45	1.45
	6	1895	125	M.	a 10	1.35	1.35	1.35
	6	1897	150	M.	a 10	1.50	1.50	1.50
Linemen:								
Buffalo, N. Y	4	1891	10	M.	a 10	2.50	2.50	2.50
Cleveland, Ohio	6	1893	30	M.	a 10	1.50	1.50	1.50
Motormen:								
Atlanta, Ga	1	1890	162	M.	72	1.80	1.80	1.80
	1	1893	176	M.	72	1.44	1.44	1.44
	1	1899	194	M.	72	1.56	1.80	1.71
Augusta, Ga	2	1890	27	M.	84	1.20	1.68	1.48½
	2	1893	27	M.	84	1.20	1.44	1.34½
	2	1899	29	M.	84	1.20	1.68	1.48½
Birmingham, Ala	3	1890	75	M.	70	1.30	1.30	1.30
	3	1899	150	M.	70	1.30	1.40	1.35
Buffalo, N. Y	4	1891	402	M.	a 11	1.54	1.54	1.54
	4	1892	415	M.	a 11	1.65	1.98	1.90
	4	1895	436	M.	a 9	1.35	1.62	1.55
	4	1896	450	M.	a 9½	1.46½	1.75½	1.68
	4	1897	470	M.	a 9	1.35	1.62	1.55
	4	1898	450	M.	a 9½	1.46½	1.75½	1.68
Charlotte, N. C	5	1891	8	M.	96	1.00	1.00	1.00
	5	1896	9	M.	96	1.15	1.15	1.15
	5	1899	12	M.	90	1.15	1.20	1.16½
	5	1900	18	M.	72	1.15	1.30	1.20
Cleveland, Ohio	6	1893	170	M.	a 10	1.75	1.75	1.75
	6	1894	170	M.	a 10	2.00	2.00	2.00
	6	1895	195	M.	a 10	1.80	1.80	1.80
	6	1897	201	M.	a 10	2.00	2.00	2.00
Painters:								
Cleveland, Ohio	6	1893	8	M.	a 10	2.00	2.00	2.00
	6	1897	12	M.	a 10	2.25	2.25	2.25
Starters:								
Buffalo, N. Y	4	1891	3	M.	a 12	1.80	1.80	1.80
	4	1892	4	M.	a 9½	2.14	2.14	2.14
	4	1893	3	M.	a 10	1.60	1.60	1.60
	4	1895	3	M.	a 10	1.80	1.80	1.80

a Per day; days per week not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Concluded.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STREET RAILWAYS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average
Switchmen:								
Buffalo, N. Y	4	1891	4	M.	*a* 12	$1.80	$1.80	$1.80
	4	1892	4	M.	*a* 11	1.65	1.65	1.65
	4	1893	3	M.	*a* 12	1.80	1.80	1.80
	4	1894	3	M.	*a* 10	1.50	1.50	1.50
Watchmen:								
Buffalo, N. Y	4	1891	8	M.	*a* 12	1.80	1.80	1.80
	4	1892	8	M.	*a* 9½	1.86	1.86	1.86
	4	1893	8	M.	*a* 10	1.50	1.50	1.50
WOOLEN GOODS.								
Dyers:								
Passaic, N. J	1	1891	9	M.	60	$1.04	$1.41½	$1.09½
	1	1899	11	M.	60	1.08½	1.45	1.12½
	1	1900	11	M.	60	1.25	1.66½	1.29½
Finishers:								
Passaic, N. J	1	1891	24	M.	60	.90	1.04	.97½
	1	1899	30	M.	60	.94	1.08½	1.00
	1	1900	30	M.	60	1.08½	1.25	1.16½
Rag sorters and cleaners:								
Passaic, N. J	1	1891	14	M.	60	.93½	1.04½	1.01
	1	1899	18	M.	60	.98	1.10	1.05
	1	1900	18	M.	60	1.12½	1.25	1.20
Spinners:								
Passaic, N. J	1	1891	16	M.	60	.97½	1.70	1.25½
	1	1899	20	M.	60	1.06	1.85	1.37½
	1	1900	21	M.	60	1.16½	2.06½	1.51
Weavers:								
Passaic, N. J	1	1891	64	(*b*)	60	1.05	1.68½	1.35
	1	1899	80	(*b*)	60	1.08½	1.74	1.39
	1	1900	79	(*b*)	60	1.25	2.00	1.60
MISCELLANEOUS.								
Organ makers:								
Worcester, Mass	2	1891	40	(*b*)	59	$1.25	$4.00	$2.50
Sheet-metal workers:								
Philadelphia, Pa	1	1891	40	M.	54	2.50	2.50	2.50
Wireworkers:								
Worcester, Mass	3	1896	154	M.	60	.66½	3.33½	1.45
	3	1897	158	M.	60	.83½	3.33½	1.48
	3	1898	150	M.	60	.60	3.33½	1.50
	3	1899	160	M.	60	.50	3.50	1.46
	3	1900	164	M.	60	.50	3.50	1.58

a Per day; days per week not reported. *b* Not reported.

TABLE II.—MONTHLY PRICES OF PIG IRON, STEEL BILLETS, RAILS, ETC., 1889 TO 1899.

[The prices of pig iron and steel rails are from the Iron Age, other prices from the Report of the Industrial Commission. The combinations controlling the most of these products were organized in December, 1898, and the first half of 1899.]

Year and month.	Pig iron.						Steel billets, rails, etc.			
	Foundry No. 2, local, at Chicago, per 2,240 lbs.	Charcoal, Lake Superior, at Chicago, per 2,240 lbs.	Gray forge, southern, at Cincinnati, per 2,240 lbs.	Gray forge at Philadelphia, per 2,240 lbs.	Bessemer at Pittsburg, per 2,240 lbs.	Gray forge, lake ore, at Pittsburg, per 2,240 lbs.	Billets at Pittsburg, per 2,240 lbs.	Billets and slabs, per 2,240 lbs.	Slabs, ¾ in. by 8 in., at Pittsburg, per 2,240 lbs.	Rails at mills in Pennsylvania, per 2,240 lbs.
1889.										
Jan	$16.88	$20.00	$13.50	$15.50	$16.75	$15.50	$28.12	$27.65	$30.00	$27.50
Feb	15.50	19.50	12.75	15.25	16.35	14.75	27.81	28.13	29.50	27.50
Mar	15.75	19.50	13.12	15.25	16.50	15.00	27.25	27.32	29.25	27.50
Apr	15.87	19.25	13.25	15.00	16.25	14.25	27.00	27.89	28.75	27.50
May	15.50	18.75	13.00	14.75	16.00	14.00	26.90	26.41	28.75	27.00
June	15.25	18.50	12.88	14.90	16.00	14.00	26.62	25.95	28.50	27.50
July	15.50	18.50	13.50	15.00	16.35	14.15	27.12	26.16	28.75	28.00
Aug	15.50	18.50	13.37	15.25	17.50	14.90	28.37	26.32	30.00	28.00
Sept	15.50	18.75	13.50	15.25	18.00	15.50	29.40	26.27	30.75	29.50
Oct	16.38	19.50	14.38	15.60	20.75	16.60	33.70	26.57	33.50	32.00
Nov	16.62	20.00	15.12	16.75	21.75	17.25	34.00	26.88	36.00	34.00
Dec	18.00	22.00	17.25	17.25	23.75	18.25	35.50	27.92	37.00	35.00
1890.										
Jan	19.75	23.00	17.25	17.90	23.60	18.00	36.65	32.01	38.75	35.25
Feb	18.50	23.00	17.25	17.38	22.55	18.00	35.25	32.36	36.25	35.00
Mar	17.25	22.50	14.25	17.00	20.25	17.00	31.37	33.10	31.50	34.00
Apr	16.75	21.50	13.38	16.10	17.85	15.35	28.37	31.01	29.75	33.50
May	16.25	21.00	13.37	15.65	17.55	15.25	27.55	30.04	29.50	31.25
June	16.25	20.50	13.88	15.50	19.00	15.25	30.25	28.84	32.65	31.50
July	16.50	20.00	13.37	15.25	18.62	15.25	30.70	26.00	32.50	31.50
Aug	16.50	20.25	13.62	15.10	18.10	15.25	30.25	30.36	32.00	31.25
Sept	16.50	20.25	13.38	15.00	18.00	15.25	30.12	30.00	31.75	30.50
Oct	16.00	19.75	13.37	15.00	17.35	15.00	28.90	29.68	29.50	30.00
Nov	15.62	19.25	13.38	15.00	17.00	15.00	27.37	28.95	29.00	29.00
Dec	15.25	18.75	12.63	15.00	16.60	14.75	26.25	28.10	27.75	28.50
1891.										
Jan	14.75	18.50	12.62	14.50	15.95	14.25	25.60	27.51	27.75	29.00
Feb	15.25	18.25	12.88	14.50	16.25	14.50	26.00	26.00	27.75	30.00
Mar	15.25	18.00	13.50	14.75	16.50	15.00	26.25	25.95	27.50	30.00
Apr	15.62	18.00	12.88	14.75	16.10	14.12	25.35	25.42	26.50	30.00
May	15.50	17.00	12.87	14.75	16.50	14.00	25.50	26.11	27.25	30.00
June	15.25	16.75	12.88	14.75	16.25	14.00	25.25	(a)	27.25	30.00
July	15.13	17.00	12.87	14.60	16.25	14.00	25.50	25.47	27.00	30.00
Aug	15.12	17.00	12.63	14.50	16.00	14.00	25.31	25.75	27.00	30.00
Sept	15.13	17.25	12.62	14.35	15.60	14.00	25.00	25.71	26.50	30.00
Oct	15.12	17.00	12.88	14.35	15.50	13.85	24.90	25.56	26.25	30.00
Nov	14.88	17.00	12.87	14.25	15.15	13.50	24.16	25.24	25.75	30.00
Dec	14.75	16.25	12.38	14.25	15.35	13.50	24.20	24.49	25.75	30.00
1892.										
Jan	14.50	17.25	12.25	14.25	15.65	13.50	25.00	24.50	26.50	30.00
Feb	14.37	17.00	12.25	14.25	15.25	13.25	24.36	24.62	25.86	30.00
Mar	14.00	17.00	11.95	14.00	14.75	13.00	23.00	24.03	24.50	30.00
Apr	14.00	16.75	11.75	14.00	14.50	13.00	22.81	24.04	24.31	30.00
May	14.00	16.50	11.75	13.75	14.36	12.94	22.41	23.43	23.91	30.00
June	14.00	16.50	11.65	13.50	14.10	12.75	22.97	22.94	24.47	30.00
July	14.00	16.50	11.37	13.00	14.00	12.75	23.50	20.66	25.00	30.00
Aug	13.75	16.50	11.19	13.00	14.00	12.50	23.81	23.53	25.31	30.00
Sept	13.50	16.50	11.00	13.00	13.96	12.50	23.65	23.73	25.15	30.00
Oct	13.50	16.75	11.31	13.25	13.90	12.50	23.53	23.70	25.03	30.00
Nov	13.50	16.50	11.71	13.25	14.03	12.50	24.94	23.67	26.44	30.00
Dec	13.50	16.50	11.50	13.25	13.90	12.50	22.40	23.43	23.90	30.00
1893.										
Jan	13.37	16.50	11.50	13.10	13.59	12.30	21.56	22.71	23.06	29.00
Feb	12.81	16.50	11.12	13.00	13.51	12.25	21.62	22.32	23.12	29.00
Mar	13.00	16.50	10.90	13.00	13.75	12.25	22.60	22.70	24.10	29.00
Apr	13.00	16.50	10.75	13.00	13.86	12.25	22.44	22.53	23.94	29.00
May	12.96	16.50	10.69	13.00	13.51	12.25	21.69	22.22	23.19	29.00
June	13.00	16.00	10.50	13.00	13.50	12.25	21.70	22.27	23.20	29.00
July	12.79	16.00	10.44	13.00	13.21	12.00	21.06	21.80	22.56	29.00
Aug	12.75	16.00	10.15	12.94	13.08	12.00	20.45	21.13	21.95	29.00
Sept	12.75	16.00	9.94	12.58	12.19	11.69	19.31	20.00	20.81	29.00
Oct	12.75	16.00	9.75	12.25	11.60	10.87	18.06	19.47	19.56	27.50
Nov	12.75	15.75	9.80	12.00	11.46	10.66	17.37	19.39	18.87	25.00
Dec	11.69	15.50	9.94	11.94	11.17	10.44	16.69	18.65	18.19	24.00
1894.										
Jan	12.50	15.50	9.75	11.56	10.90	9.88	16.12	18.66	17.62	24.00
Feb	11.87	15.40	9.44	11.37	10.75	9.72	15.75	17.59	17.25	24.00
Mar	11.30	15.25	9.00	11.00	10.56	9.61	15.55	16.68	17.05	24.00
Apr	10.50	15.25	8.50	10.75	10.49	9.47	15.69	16.20	17.19	24.00
May	10.50	15.25	8.50	10.50	12.44	9.55	18.00	16.00	19.50	24.00
June	10.50	15.25	8.62	10.56	13.15	9.78	18.12	16.91	19.62	[illegible]

a Not reported.

TABLE II.—MONTHLY PRICES OF PIG IRON, STEEL BILLETS, RAILS, ETC. 1889 TO 1899—Concluded

Year and month.	Pig iron.						Steel billets, rails, etc.			
	Foundry No. 2, local, at Chicago, per 2,240 lbs.	Charcoal, Lake Superior, at Chicago, per 2,240 lbs.	Gray forge, southern, at Cincinnati, per 2,240 lbs.	Gray forge at Philadelphia, per 2,240 lbs.	Bessemer at Pittsburg, per 2,240 lbs.	Gray forge, lake ore, at Pittsburg, per 2,240 lbs.	Billets at Pittsburg, per 2,240 lbs.	Billets and slabs, per 2,240 lbs.	Slabs, ¾ in. by 8 in., at Pittsburg, per 2,240 lbs.	Rails at mill in Pennsylvania, per 2,240 lbs
1894.										
July	$10.12	$15.00	$8.75	$10.50	$12.60	$9.94	$18.00	$16.84	$19.50	$24.0
Aug	10.00	14.50	8.80	10.50	12.12	10.00	17.15	15.93	18.65	24.0
Sept	10.00	14.25	8.75	10.50	11.53	10.02	17.19	15.98	18.19	24.0
Oct	10.00	14.00	8.75	10.50	11.02	9.84	16.00	15.89	17.50	24.0
Nov	9.70	13.50	8.50	10.50	10.66	9.72	15.57	15.60	17.07	24.0
Dec	9.75	13.00	8.37	10.50	10.31	9.47	15.12	15.60	16.62	24.0
1895.										
Jan	9.75	13.00	8.25	10.50	10.06	9.17	14.90	14.86	16.40	22.0
Feb	9.75	13.00	8.25	10.50	10.15	9.09	14.95	14.85	16.45	22.0
Mar	9.81	13.00	8.25	10.50	10.23	8.99	14.84	14.88	16.24	22.0
Apr	10.25	12.75	8.25	10.50	10.69	9.27	15.44	14.76	16.94	22.0
May	10.25	13.00	8.25	10.45	11.15	9.81	16.30	15.02	17.80	22.0
June	10.88	13.00	9.88	11.12	12.39	10.55	18.63	15.62	20.10	22.0
July	12.13	13.50	11.38	12.05	14.14	11.45	20.75	17.18	22.25	24.0
Aug	13.20	13.50	11.50	12.31	15.02	11.97	21.75	18.24	23.25	24.0
Sept	13.63	14.50	12.50	12.70	17.19	13.37	24.00	18.73	25.50	28.0
Oct	14.00	15.50	12.50	12.87	15.77	13.12	21.90	20.24	23.40	28.0
Nov	14.00	15.50	12.50	12.44	13.94	12.65	19.13	20.05	20.63	28.0
Dec	14.00	16.00	12.50	11.90	11.87	11.85	16.97	19.73	18.47	28.0
1896.										
Jan	12.55	14.50	10.55	11.55	11.81	10.90	16.80	21.19	18.30	28.0
Feb	12.50	14.00	9.75	11.50	12.95	11.00	17.38	19.19	18.88	28.0
Mar	12.00	13.50	9.58	11.30	12.25	10.92	17.09	17.62	18.59	28.0
Apr	12.00	13.50	9.35	11.19	13.32	10.85	19.53	17.65	21.00	28.0
May	11.69	13.50	9.50	11.00	12.83	10.79	19.50	19.08	21.00	28.0
June	11.50	13.50	9.44	11.00	12.47	10.62	19.12	20.11	20.62	28.0
July	11.25	13.50	9.00	10.90	12.12	10.37	18.85	19.00	20.35	28.0
Aug	11.18	13.50	8.75	10.75	10.91	9.63	18.75	(a)	20.25	28.0
Sept	10.75	13.50	9.00	10.75	11.31	9.50	19.75	20.17	21.25	28.0
Oct	10.88	13.50	9.20	10.81	11.71	9.87	19.75	19.45	21.25	28.0
Nov	11.19	13.50	9.94	11.12	12.46	10.34	20.00	19.23	21.50	28.0
Dec	11.25	13.50	9.60	11.25	11.54	9.94	17.50	16.90	19.00	28.0
1897.										
Jan	11.02	13.50	9.31	11.06	10.77	9.66	15.42	15.14	16.92	25.0
Feb	11.00	13.50	9.00	11.00	10.72	9.54	15.25	15.41	16.75	20.0
Mar	10.88	13.50	8.94	10.65	10.57	9.41	15.44	15.61	16.94	18.0
Apr	10.75	13.50	8.40	10.50	9.91	8.85	14.60	15.61	16.10	18.0
May	10.38	13.00	8.19	10.25	9.52	8.70	13.82	15.65	15.32	18.0
June	10.25	13.00	8.25	10.10	9.74	8.36	14.06	15.46	15.56	18.0
July	10.25	13.00	8.45	10.19	9.39	8.36	14.00	(a)	15.50	18.0
Aug	10.25	13.00	8.45	10.05	9.54	8.29	14.00	(a)	15.50	18.0
Sept	10.40	12.50	8.80	10.50	10.04	8.85	15.60	14.71	17.10	18.0
Oct	11.00	12.50	9.00	10.50	10.70	9.75	16.44	15.07	17.94	18.0
Nov	11.00	12.50	9.00	10.50	10.52	9.56	15.57	14.51	17.07	18.0
Dec	11.00	12.50	9.00	10.50	10.09	9.00	15.00	13.82	16.50	18.0
1898.										
Jan	11.00	12.50	9.00	10.37	10.00	9.00	14.93	13.93	16.43	18.0
Feb	10.93	11.50	8.75	10.25	10.06	8.97	15.06	14.02	16.56	18.0
Mar	10.75	11.50	8.55	10.25	10.37	9.06	15.25	14.00	16.75	18.0
Apr	10.91	11.50	8.50	10.25	10.35	9.22	15.06	14.04	16.56	18.0
May	11.00	11.50	8.62	10.25	10.41	9.12	14.85	14.16	16.35	18.0
June	11.00	11.50	8.55	10.25	10.42	9.14	14.65	15.08	16.15	17.5
July	11.00	11.50	8.38	10.25	10.31	9.11	14.50	14.84	16.00	17.0
Aug	11.00	11.50	8.37	10.25	10.35	9.19	15.85	14.78	17.35	18.0
Sept	11.00	11.50	8.55	10.19	10.45	9.36	16.00	14.74	17.50	17.5
Oct	11.00	11.50	8.75	10.00	10.40	9.33	15.56	14.91	17.06	17.5
Nov	11.00	11.50	8.75	10.00	10.22	9.24	15.06	15.10	16.56	17.0
Dec	11.00	11.50	8.90	10.41	10.64	9.46	15.80	14.75	17.30	17.5
1899.										
Jan	11.12	11.50	9.56	10.75	11.00	9.89	16.62	15.53	18.12	18.5
Feb	12.12	12.50	10.42	11.69	11.69	10.87	18.00	14.98	19.50	20.2
Mar	14.60	15.75	12.70	14.37	14.77	13.29	24.30	14.62	25.80	24.8
Apr	15.12	17.00	13.25	15.00	15.06	14.50	25.37	16.24	26.87	25.7
May	15.37	17.25	13.43	15.30	16.32	15.07	26.75	15.27	28.25	25.2
June	17.60	19.50	14.85	16.50	18.70	15.94	30.10	15.09	31.60	27.2
July	19.50	21.50	16.25	17.81	20.45	17.50	33.12	17.18	35.50	28.2
Aug	20.50	22.50	17.25	18.10	22.37	18.37	35.62	26.49	38.50	31.0
Sept	23.00	24.25	19.00	19.50	23.85	20.90	38.37	26.86	40.50	32.5
Oct	23.00	25.00	19.25	19.65	24.50	21.19	33.75	33.37	40.50	34.0
Nov	23.50	25.50	19.25	20.19	24.69	21.56	36.50	32.39	35.50	35.0
Dec	23.50	25.50	19.12½	20.31	25.00	21.52	38.75	(a)	34.50	35.0

a Not reported.

TABLE III.—RELATIVE MONTHLY PRICES OF PIG IRON, STEEL BILLETS, RAILS, ETC., 1889 TO 1899.

[The combinations controlling the most of these products were organized in December, 1898, and the first half of 1899.]

Year and month.	Pig iron.						Steel billets, rails, etc.			
	Foundry No. 2, local, at Chicago.	Charcoal, Lake Superior, at Chicago.	Gray forge, southern, at Cincinnati.	Gray forge at Philadelphia.	Bessemer at Pittsburg.	Gray forge, lake ore, at Pittsburg.	Billets at Pittsburg.	Billets and slabs.	Slabs, 4 in. by 8 in., at Pittsburg.	Rails at mills in Pennsylvania.
1889.										
Jan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Feb	91.8	97.5	94.4	98.4	97.6	95.2	98.9	101.7	98.3	100.0
Mar	98.3	97.5	97.2	98.4	98.5	96.8	96.9	98.8	97.5	100.0
Apr	94.0	96.3	98.1	96.8	97.0	91.9	96.0	100.9	95.8	100.0
May	91.8	93.8	96.3	95.2	95.5	90.3	95.7	95.5	95.8	98.2
June	90.3	92.5	95.4	96.1	95.5	90.3	94.7	93.9	95.0	100.0
July	91.8	92.5	100.0	96.8	97.6	91.3	96.4	94.6	95.8	101.8
Aug	91.8	92.5	99.0	98.4	104.5	96.1	100.9	95.2	100.0	101.8
Sept	91.8	93.8	100.0	98.4	107.5	100.0	104.6	95.0	102.5	107.3
Oct	97.0	97.5	106.5	100.6	123.9	107.1	119.8	96.1	111.7	116.4
Nov	98.5	100.0	112.0	108.1	129.9	111.3	120.9	97.2	120.0	123.6
Dec	106.6	110.0	127.8	111.3	141.8	117.7	126.2	101.0	123.3	127.3
1890.										
Jan	117.0	115.0	127.8	115.5	140.9	116.1	130.3	115.8	129.2	128.2
Feb	109.6	115.0	127.8	112.1	134.6	116.1	125.4	117.0	120.8	127.3
Mar	102.2	112.5	105.6	109.7	120.9	109.7	111.6	119.7	105.0	123.6
Apr	99.2	107.5	99.1	103.9	106.6	99.0	100.9	112.2	99.2	121.8
May	96.3	105.0	99.0	101.0	104.8	98.4	98.0	108.6	98.3	113.6
June	96.3	102.5	102.8	100.0	113.4	98.4	107.6	104.3	108.8	114.5
July	97.7	100.0	99.0	98.4	111.2	98.4	109.2	94.0	108.3	114.5
Aug	97.7	101.3	100.9	97.4	108.1	98.4	107.6	109.8	106.7	113.6
Sept	97.7	101.3	99.1	96.8	107.5	98.4	107.1	108.5	105.8	110.9
Oct	94.8	98.8	99.0	96.8	103.6	96.8	102.8	107.3	98.3	109.1
Nov	92.5	96.3	99.1	96.8	101.5	96.8	97.3	104.7	96.7	105.5
Dec	90.3	93.8	93.6	96.8	99.1	95.2	93.3	101.6	92.5	103.6
1891.										
Jan	87.4	92.5	93.5	93.5	95.2	91.9	91.0	99.5	92.5	105.5
Feb	90.3	91.3	95.4	93.5	97.0	93.5	92.5	94.0	92.5	109.1
Mar	90.3	90.0	100.0	95.2	98.5	96.8	93.3	93.9	91.7	109.1
Apr	92.5	90.0	95.4	95.2	96.1	91.1	90.1	91.9	88.3	109.1
May	91.8	85.0	95.3	95.2	98.5	90.3	90.7	94.4	90.8	109.1
June	90.3	83.8	95.4	95.2	97.0	90.3	89.8	(a)	90.8	109.1
July	89.6	85.0	95.3	94.2	97.0	90.3	90.7	92.1	90.0	109.1
Aug	89.6	85.0	93.6	93.5	95.5	90.3	90.0	93.1	90.0	109.1
Sept	89.6	86.3	93.5	92.6	93.1	90.3	88.9	93.0	88.3	109.1
Oct	89.6	85.0	95.4	92.6	92.5	89.4	88.5	92.4	87.5	109.1
Nov	88.2	85.0	95.3	91.9	90.4	87.1	85.9	91.3	85.8	109.1
Dec	87.4	81.3	91.7	91.9	91.6	87.1	86.1	88.6	85.8	109.1
1892.										
Jan	85.9	86.3	90.7	91.9	93.4	87.1	88.9	88.6	88.3	109.1
Feb	85.1	85.0	90.7	91.9	91.0	85.5	86.6	89.0	86.2	109.1
Mar	82.9	85.0	88.5	90.3	88.1	83.9	81.8	86.9	81.7	109.1
Apr	82.9	83.8	87.0	90.3	86.6	83.9	81.1	86.9	81.0	109.1
May	82.9	82.5	87.0	88.7	85.7	83.5	79.7	84.7	79.7	109.1
June	82.9	82.5	86.3	87.1	84.2	82.3	81.7	83.0	81.6	109.1
July	82.9	82.5	84.2	83.9	83.6	82.3	83.6	74.7	83.3	109.1
Aug	81.5	82.5	82.9	83.9	83.6	80.6	84.7	85.1	84.4	109.1
Sept	80.0	82.5	81.5	83.9	83.3	80.6	84.1	85.8	83.8	109.1
Oct	80.0	83.8	83.8	85.5	83.0	80.6	83.7	85.7	83.4	109.1
Nov	80.0	82.5	86.7	85.5	83.8	80.6	88.7	85.6	88.1	109.1
Dec	80.0	82.5	85.2	85.5	83.0	80.6	79.7	84.7	79.7	109.1
1893.										
Jan	79.2	82.5	85.2	84.5	81.1	79.4	76.7	82.1	76.9	105.5
Feb	75.9	82.5	82.4	83.9	80.7	79.0	76.9	80.7	77.1	105.5
Mar	77.0	82.5	80.7	83.9	82.1	79.0	80.4	82.1	80.3	105.5
Apr	77.0	82.5	79.6	83.9	82.7	79.0	79.8	81.5	79.8	105.5
May	76.8	82.5	79.2	83.9	80.7	79.0	77.1	80.4	77.3	105.5
June	77.0	80.0	77.8	83.9	80.6	79.0	77.2	80.5	77.3	105.5
July	75.8	80.0	77.3	83.9	78.9	77.4	74.9	78.8	75.2	105.5
Aug	75.5	80.0	75.2	83.5	78.1	77.4	72.7	76.4	73.2	105.5
Sept	75.5	80.0	73.6	81.2	72.8	75.4	68.7	72.3	69.4	105.5
Oct	75.5	80.0	72.2	79.0	69.3	70.1	64.2	70.4	65.2	100.0
Nov	75.5	78.8	72.6	77.4	68.4	68.8	61.8	70.1	62.9	90.9
Dec	69.3	77.5	73.6	77.0	66.7	67.4	59.4	67.5	60.6	87.3
1894.										
Jan	74.1	77.5	72.2	74.6	65.1	63.7	57.3	67.5	58.7	87.3
Feb	70.3	77.0	69.9	73.4	64.2	62.7	56.0	63.6	57.5	87.3
Mar	66.9	76.3	66.7	71.0	63.0	62.0	55.3	60.3	56.8	87.3
Apr	62.2	76.3	63.0	69.4	62.6	61.1	55.8	58.6	57.3	87.3
May	62.2	76.3	63.0	67.7	74.3	61.6	64.0	57.9	65.0	87.3
June	62.2	76.3	63.9	68.1	78.5	63.1	64.4	63.2	65.4	87.3

a Not reported.

TABLE III.—RELATIVE MONTHLY PRICES OF PIG IRON, STEEL BILLE RAILS, ETC., 1889 to 1899—Concluded.

Year and month.	Pig iron.						Steel billets, rails, etc.			
	Foundry No. 2, local, at Chicago.	Charcoal, Lake Superior, at Chicago.	Gray forge, southern, at Cincinnati.	Gray forge at Philadelphia.	Bessemer at Pittsburg.	Gray forge, lake ore, at Pittsburg.	Billets at Pittsburg.	Billets and slabs.	Slabs, 4 in. by 8 in., at Pittsburg.	Rail mill Penn var
1894.										
July	60.0	75.0	64.8	67.7	75.2	64.1	64.0	60.9	65.0	
Aug	59.2	72.5	65.2	67.7	72.4	64.5	61.0	57.6	62.2	
Sept	59.2	71.3	64.8	67.7	68.8	64.6	61.1	57.8	60.6	
Oct	59.2	70.0	64.8	67.7	65 8	63.5	56.9	57.5	58.3	
Nov	57.5	67.5	63.0	67.7	63.6	62.7	55.4	56.4	56.9	
Dec	57.8	65.0	62.0	67.7	61.6	61.1	53.8	56.4	55.4	
1895.										
Jan	57.8	65.0	61.1	67.7	60.1	59.2	53.0	53.7	54.7	
Feb	57.8	65.0	61.1	67.7	60.6	58.6	53.2	53.7	54.8	
Mar	58.1	65.0	61.1	67.7	61.1	58.0	52.8	53.8	54.1	
Apr	60.7	63.8	61.1	67.7	63.8	59.8	54.9	53.4	56.5	
May	60.7	65.0	61.1	67.4	66.6	63.3	58.0	54.3	59.3	
June	64.5	65.0	73.2	71.7	74.0	68.1	66.3	56.5	67.0	
July	71.9	67.5	84.3	77.7	84.4	73.9	73.8	62.1	74.2	
Aug	78.2	67.5	85.2	79.4	89.7	77.2	77.3	66.0	77.5	
Sept	80.7	72.5	92.6	81.9	102.6	86.3	85.3	67.7	85.0	1
Oct	82.9	77.5	92.6	83.0	94.1	84.6	77.9	73.2	78.0	1
Nov	82.9	77.5	92.6	80.3	83.2	81.6	68.0	72.5	68.8	1
Dec	82.9	80.0	92.6	76.8	70.9	76.5	60.3	71.4	61.6	1
1896.										
Jan	74.3	72.5	78.1	74.5	70.5	70.3	59.7	76.6	61.0	1
Feb	74.1	70.0	72.2	74.2	77.3	71.0	61.8	69.4	62.9	1
Mar	71.1	67.5	71.0	72.9	73.1	70.5	60.8	63.7	62.0	1
Apr	71.1	67.5	69.3	72.2	79.5	70.0	69.5	63.8	70.0	1
May	69.3	67.5	70.4	71.0	76.6	69.6	69.3	69.0	70.0	1
June	68.1	67.5	69.9	71.0	74.4	68.5	68.0	72.7	68.7	1
July	66.6	67.5	66.7	70.3	72.4	66.9	67.0	68.7	67.8	1
Aug	66.2	67.5	64.8	69.4	65.1	62.1	66.7	(a)	67.5	1
Sept	63.7	67.5	66.7	69.4	67.5	61.3	70.2	72.9	70.8	1
Oct	64.5	67.5	68.1	69.7	69.9	63.7	70.2	70.3	70.8	1
Nov	66.3	67.5	73.6	71.7	74.4	66.7	71.1	69.5	71.7	1
Dec	66.6	67.5	71.1	72.6	68.9	64.1	62.2	61.1	63.3	1
1897.										
Jan	65.3	67.5	69.0	71.4	64.3	62.3	54.8	54.7	56.4	
Feb	65.2	67.5	66.7	71.0	64.0	61.5	54.2	55.7	55.8	
Mar	64.5	67.5	66.2	68.7	63.1	60.7	54.9	56.5	56.5	
Apr	63.7	67.5	62.2	67.7	59.2	57.1	51.9	56.5	53.7	
May	61.5	65.0	60.7	66.1	56.8	56.1	49.1	56.6	51.1	
June	60.7	65.0	61.1	65.2	58.1	53.9	50.0	55.9	51.9	
July	60.7	65.0	62.6	65.7	56.1	53.9	49.8	(a)	51.7	
Aug	60.7	65.0	62.6	64.8	57.0	53.5	49.8	(a)	51.7	
Sept	61.6	62.5	65.2	67.7	59.9	57.1	55.5	53.2	57.0	
Oct	65.2	62.5	66.7	67.7	63.9	62.9	58.5	54.5	59.8	
Nov	65.2	62.5	66.7	67.7	62.8	61.7	55.4	52.5	56.9	
Dec	65.2	62.5	66.7	67.7	60.2	58.1	53.3	50.0	55.0	
1898.										
Jan	65.2	62.5	66.7	66.9	59.7	58.1	53.1	50.4	54.8	
Feb	64.8	57.5	64.8	66.1	60.1	57.9	53.6	50.7	55.2	
Mar	63.7	57.5	63.3	66.1	61.9	58.5	54.2	50.6	55.8	
Apr	64.6	57.5	63.0	66.1	61.8	59.5	53.6	50.8	55.2	
May	65.2	57.5	63.9	66.1	62.1	58.8	52.8	51.2	54.5	
June	65.2	57.5	63.3	66.1	62.2	59.0	52.1	54.5	53.8	
July	65.2	57.5	62.1	66.1	61.6	58.8	51.6	53.7	53.3	
Aug	65.2	57.5	62.0	66.1	61.8	59.3	56.4	53.5	57.8	
Sept	65.2	57.5	63.3	65.7	62.4	60.4	56.9	53.3	58.3	
Oct	65.2	57.5	64.8	64.5	62.1	60.2	55.3	53.9	56.9	
Nov	65.2	57.5	64.8	64.5	61.0	59.6	53.6	54.6	55.2	
Dec	65.2	57.5	65.9	67.2	63.5	61.0	56.2	53.3	57.7	
1899.										
Jan	65.9	57.5	70.8	69.4	65.7	63.8	59.1	56.2	60.4	
Feb	71.8	62.5	77.2	75.4	69.8	70.1	64.0	54.2	65.0	
Mar	86.5	78.8	94.1	92.7	88.2	85.7	86.4	52.9	86.0	
Apr	89.6	85.0	98.1	96.8	89.9	93.5	90.2	58.7	89.6	
May	91.1	86.3	99.5	98.7	97.4	97.2	95.1	55.2	94.2	
June	104.3	97.5	110.0	106.5	111.6	102.8	107.0	54.6	105.3	
July	115.5	107.5	120.4	114.9	122.1	112.9	117.8	62.1	118.3	1
Aug	121.4	112.5	127.8	116.8	133.6	118.5	126.7	95.8	128.3	1
Sept	136.3	121.3	140.7	125.8	142.4	134.8	136.5	97.1	135.0	1
Oct	136.3	125.0	142.6	126.8	146.3	136.7	120.0	120.7	135.0	1
Nov	139.2	127.5	142.6	130.3	147.4	139.1	129.8	117.1	118.3	1
Dec	139.2	127.5	141.7	131.0	149.3	138.8	137.8	(a)	115.0	1

a Not reported.

TABLE IV.—MONTHLY PRICES OF FINISHED IRON AND STEEL, 1889 TO 1899.

[Prices of skelp and black merchant pipe are from the books of one of the combinations, those o wire nails at New York and galvanized barbed wire from the Report of the Industrial Commission other prices are from the Iron Age. The combinations controlling the most of these products were organized in December, 1898, and the first half of 1899.]

Year and month.	Bar iron, common, at Chicago, per cwt.	Bar iron, best refined, from store at Philadelphia, per cwt.	Bar iron at Philadelphia, per cwt.	Bar iron, all muck, at Pittsburg, per cwt.	Steel tank plates at Philadelphia, per cwt.	Steel beams at Philadelphia, per cwt.	Steel angles at Chicago, per cwt.	Skelp (plates), per ton.	Sheets, No. 27, at Chicago, per cwt.
1889.									
Jan	$1.70	$2.00	$1.85	$1.75	$2.05	$2.80	$2.15	$36.76	$3.05
Feb	1.67½	1.90	1.85	1.70	2.01	2.80	2.12½	35.53	3.05
Mar	1.62½	1.80	1.82	1.65	1.95	2.80	2.12½	34.18	3.00
Apr	1.60	1.80	1.80	1.65	1.95	2.80	2.12½	33.76	3.05
May	1.55	1.85	1.80	1.60	1.95	2.80	2.10	32.18	2.95
June	1.55	1.90	1.80	1.60	1.95	2.80	2.10	33.81	3.00
July	1.60	1.90	1.85	1.60	2.01	2.80	2.15	33.81	3.12
Aug	1.65	1.95	1.90	1.72	2.01	2.80	2.25	34.28	3.17
Sept	1.70	1.95	1.90	1.75	2.20	2.80	2.25	34.89	3.20
Oct	1.75	2.00	1.92	1.80	2.22	2.80	2.30	35.58	3.30
Nov	1.85	2.05	1.93	1.80	2.25	3.10	2.35	36.83	3.30
Dec	1.92½	2.15	1.95	1.90	2.33	3.10	2.40	37.14	3.30
1890.									
Jan	1.95	2.20	1.97	1.90	2.75	3.10	2.55	38.11	3.30
Feb	1.90	2.20	1.92	1.90	2.60	3.10	2.55	36.69	3.30
Mar	1.80	2.10	1.90	1.85	2.55	3.10	2.50	37.29	3.20
Apr	1.75	2.10	1.90	1.85	2.45	3.10	2.35	37.95	3.10
May	1.70	2.10	1.85	1.75	2.35	3.10	2.25	37.47	3.00
June	1.80	2.00	1.83	1.80	2.35	3.10	2.25	36.49	3.15
July	1.80	1.90	1.82	1.80	2.40	3.10	2.30	36.41	3.15
Aug	1.85	1.95	1.85	1.85	2.45	3.10	2.35	37.78	3.25
Sept	1.90	2.00	1.85	1.85	2.45	3.10	2.35	38.02	3.25
Oct	1.85	2.00	1.90	1.85	2.45	3.10	2.35	38.41	3.20
Nov	1.80	2.00	1.90	1.85	2.45	3.10	2.35	38.10	3.15
Dec	1.77½	2.00	1.83	1.85	2.35	3.10	2.35	37.88	3.05
1891.									
Jan	1.70	2.00	1.82	1.80	2.15	3.10	2.30	37.33	2.95
Feb	1.72½	1.90	1.83	1.75	2.15	3.10	2.25	36.28	2.95
Mar	1.70	1.90	1.75	1.75	2.08	3.10	2.25	37.22	3.00
Apr	1.65	1.90	1.80	1.70	2.15	3.10	2.25	35.53	2.95
May	1.65	1.90	1.70	1.70	2.15	3.10	2.25	34.64	3.00
June	1.67½	1.90	1.80	1.70	2.12	3.10	2.15	34.23	3.00
July	1.67½	1.90	1.70	1.70	2.10	3.10	2.10	33.59	2.95
Aug	1.67½	1.90	1.75	1.70	2.07	3.10	2.10	33.28	2.95
Sept	1.75	1.90	1.75	1.70	2.05	3.10	2.10	33.80	2.95
Oct	1.75	1.85	1.70	1.70	2.05	3.10	2.05	34.35	2.95
Nov	1.67½	1.85	1.70	1.68	2.05	3.10	2.10	34.30	2.90
Dec	1.70	1.90	1.70	1.68	2.05	3.10	2.10	33.51	2.95
1892.									
Jan	1.65	1.85	1.71	1.70	1.87	3.10	2.00	32.98	2.90
Feb	1.67½	1.85	1.70	1.68	1.85	2.86	1.95	32.32	2.90
Mar	1.62½	1.85	1.70	1.62	1.85	2.25	1.95	32.01	2.85
Apr	1.57½	1.90	1.70	1.60	1.84	2.20	1.90	31.86	2.85
May	1.52½	1.90	1.67	1.58	1.76	2.15	1.85	31.37	2.75
June	1.55	1.90	1.67	1.60	1.75	2.10	1.85	31.91	2.80
July	1.62½	1.90	1.70	1.70	1.84	2.15	2.10	32.12	2.90
Aug	1.65	1.90	1.74	1.68	1.99	2.30	2.10	33.20	2.95
Sept	1.65	1.85	1.72	1.64	1.90	2.22	2.05	33.06	2.90
Oct	1.62½	1.85	1.70	1.67	1.90	2.20	2.00	32.72	2.95
Nov	1.62½	1.85	1.70	1.64	1.87	2.20	1.95	32.52	2.90
Dec	1.62½	1.80	1.66	1.60	1.85	2.07	1.90	34.24	2.95
1893.									
Jan	1.57½	1.80	1.65	1.59	1.85	2.00	1.95	32.78	2.90
Feb	1.55	1.80	1.65	1.56	1.82	2.00	1.90	32.33	2.87
Mar	1.57½	1.75	1.63	1.57	1.80	2.00	1.90	32.14	2.85
Apr	1.52½	1.75	1.62	1.55	1.80	2.00	1.90	31.72	2.85
May	1.50	1.75	1.62	1.55	1.80	2.00	1.90	32.00	2.85
June	1.47½	1.75	1.61	1.52	1.75	2.00	1.80	32.00	2.85
July	1.47½	1.70	1.60	1.52	1.70	1.85	1.77½	32.16	2.85
Aug	1.45	1.70	1.60	1.50	1.70	1.80	1.77½	32.80	2.85
Sept	1.47½	1.65	1.55	1.50	1.65	1.80	1.77½	30.52	2.80
Oct	1.45	1.60	1.55	1.40	1.60	1.80	1.77½	30.27	2.77
Nov	1.40	1.60	1.49	1.35	1.55	1.75	1.70	29.59	2.75
Dec	1.35	1.55	1.42	1.35	1.45	1.67	1.62½	27.55	2.67
1894.									
Jan	1.25	1.55	1.41	1.30	1.42	1.59	1.55	25.67	2.65
Feb	1.20	1.50	1.40	1.25	1.35	1.49	1.35	25.07	2.50
Mar	1.15	1.45	1.38	1.20	1.24	1.35	1.40	23.55	2.35
Apr	1.10	1.40	1.20	1.20	1.20	1.30	1.35	23.30	2.30
May	1.05	1.30	1.20	1.25	1.22	1.31	1.35	26.05	2.35
June	1.05	1.30	1.20	1.25	1.32	1.40	1.45	25.00	2.40

TABLE IV.—MONTHLY PRICES OF FINISHED IRON AND STEEL, 1889 T 1899—Continued.

Year and month.	Bar iron, common, at Chicago, per cwt.	Bar iron, best refined, from store at Philadelphia, per cwt.	Bar iron at Philadelphia, per cwt.	Bar iron, all muck, at Pittsburg, per cwt.	Steel tank plates at Philadelphia, per cwt.	Steel beams at Philadelphia, per cwt.	Steel angles at Chicago, per cwt.	Skelp (plates), per ton.	Sheets No. 27, Chicag per cw
1894.									
July	$1.10	$1.30	$1.20	$1.20	$1.35	$1.40	$1.45	$24.59	$2.4
Aug	1.10	1.30	1.22	1.17	1.27	1.40	1.40	24.50	2.4
Sept	1.05	1.25	1.24	1.17	1.30	1.35	1.40	24.12	2.3
Oct	1.00	1.25	1.16	1.15	1.29	1.30	1.40	22.00	2.3
Nov	1.05	1.20	1.15	1.15	1.24	1.30	1.40	22.05	2.3
Dec	1.05	1.25	1.11	1.10	1.25	1.30	1.40	21.99	2.3
1895.									
Jan	1.05	1.20	1.10	1.10	1.25	1.30	1.30	22.19	2.3
Feb	1.00	1.20	1.15	1.10	1.21	1.30	1.30	22.43	2.3
Mar	1.00	1.25	1.15	1.10	1.20	1.30	1.30	22.40	2.2
Apr	1.10	1.30	1.15	1.10	1.20	1.30	1.25	21.84	2.2
May	1.10	1.35	1.15	1.12	1.24	1.31	1.30	22.58	2.3
June	1.20	1.35	1.16	1.22	1.39	1.43	1.50	25.61	2.5
July	1.30	1.60	1.28	1.32	1.68	1.65	1.60	27.95	2.6
Aug	1.40	1.70	1.50	1.36	1.81	1.66	1.75	28.75	2.8
Sept	1.50	1.70	1.46	1.44	1.95	1.82	1.75	30.67	2.90
Oct	1.50	1.60	1.44	1.42	1.81	1.75	1.75	29.95	2.80
Nov	1.50	1.60	1.40	1.40	1.68	1.76	1.75	28.07	2.65
Dec	1.40	1.45	1.33	1.37	1.50	1.69	1.60	28.17	2.50
1896.									
Jan	1.30	1.45	1.23	1.25	1.43	1.60	1.50	26.02	2.45
Feb	1.35	1.40	1.24	1.25	1.40	1.50	1.50	26.32	2.40
Mar	1.30	1.35	1.23	1.21	1.40	1.55	1.45	25.27	2.25
Apr	1.30	1.40	1.18	1.20	1.44	1.60	1.45	27.08	2.25
May	1.30	1.40	1.20	1.20	1.45	1.68	1.45	26.61	2.35
June	1.30	1.40	1.20	1.20	1.40	1.70	1.45	26.45	2.30
July	1.30	1.40	1.20	1.20	1.38	1.76	1.35	27.03	2.30
Aug	1.30	1.40	1.21	1.20	1.35	1.70	1.35	27.64	2.25
Sept	1.30	1.40	1.20	1.20	1.31	1.70	1.30	25.84	2.20
Oct	1.30	1.40	1.20	1.20	1.27	1.70	1.30	24.58	2.20
Nov	1.15	1.40	1.20	1.22	1.25	1.70	1.30	23.67	2.25
Dec	1.25	1.40	1.15	1.25	1.23	1.62	1.35	22.57	2.20
1897.									
Jan	1.25	1.40	1.15	1.22	1.20	1.70	1.25	20.99	2.15
Feb	1.25	1.40	1.15	1.20	1.20	1.70	1.25	21.18	2.12½
Mar	1.12½	1.40	1.14	1.20	1.20	1.70	1.25	19.57	2.07½
Apr	1.05	1.25	1.15	1.14	1.20	1.70	1.20	19.43	2.02½
May	1.05	1.25	1.10	1.04	1.11	1.49	1.15	18.92	2.00
June	1.00	1.25	1.07	.99	1.10	1.25	1.15	18.83	1.90
July	1.07½	1.25	1.08	.95	1.10	1.15	1.10	18.83	1.95
Aug	1.10	1.25	1.08	.99	1.08	1.15	1.12½	18.93	2.05
Sept	1.10	1.25	1.14	1.07	1.14	1.15	1.17½	19.82	2.05
Oct	1.15	1.35	1.19	1.15	1.15	1.20	1.20	21.68	2.15
Nov	1.10	1.35	1.20	1.15	1.14	1.20	1.20	20.91	2.20
Dec	1.10	1.35	1.15	1.15	1.13	1.20	1.20	19.62	2.15
1898.									
Jan	1.05	1.40	1.11	1.15	1.10	1.30	1.30	19.77	2.10
Feb	1.05	1.35	1.11	1.15	1.10	1.30	1.15	19.87	2.07½
Mar	1.05	1.35	1.06	1.05	1.08	1.30	1.15	19.70	2.05
Apr	1.07½	1.25	1.05	1.05	1.12	1.30	1.30	19.86	2.00
May	1.10	1.25	1.06	1.05	1.21	1.30	1.25	19.29	2.05
June	1.12½	1.25	1.05	1.05	1.23	1.30	1.20	19.24	1.95
July	1.02½	1.25	1.00	1.05	1.20	1.30	1.20	19.24	1.95
Aug	1.05	1.25	1.06	1.05	1.23	1.37	1.30	19.33	2.00
Sept	1.05	1.25	1.14	1.08	1.27	1.40	1.30	20.71	2.05
Oct	1.05	1.25	1.13	1.10	1.27	1.38	1.30	20.81	2.00
Nov	1.02½	1.25	1.10	1.04	1.25	1.35	1.30	20.33	2.00
Dec	1.05	1.25	1.11	1.00	1.26	1.35	1.30	20.22	1.95
1899.									
Jan	1.05	1.30	1.15	1.12	1.35	1.40	1.40	20.62	2.00
Feb	1.15	1.45	1.20	1.22	1.55	1.42	1.40	21.91	2.35
Mar	1.45	1.70	1.41	1.38	1.89	1.55	1.55	25.59	2.45
Apr	1.57½	1.75	1.50	1.65	2.18	1.64	1.75	30.13	2.80
May	1.62½	1.90	1.56	1.75	2.23	1.63	1.75	33.92	2.95
June	1.80	2.00	1.81	1.88	2.48	1.82	1.90	37.88	3.05
July	1.85	2.30	2.00	2.00	2.65	2.15	2.15	42.65	3.15
Aug	2.00	2.40	2.00	2.28	2.80	2.40	2.25	46.00	3.20
Sept	2.25	2.50	2.10	2.50	3.00	2.40	2.40	44.22	3.25
Oct	2.30	2.50	2.10	2.60	3.00	2.40	2.40	45.82	3.15
Nov	2.30	2.50	2.20	2.56	2.65	2.40	2.40	42.82	3.10
Dec	2.30	2.50	2.05	2.50	2.40	2.40	2.40	37.29	3.00

TABLE IV.—MONTHLY PRICES OF FINISHED IRON AND STEEL, 1889 TO 1899—Continued.

Year and month.	Barbed wire, galvanized, at mill, per cwt.	Barbed wire at Chicago, per cwt. (a)	Cut steel nails at Chicago, per cwt.	Cut nails at Pittsburg, per cwt.	Wire nails at New York, per cwt.	Wire nails at Chicago, per cwt.	Machinery steel, open hearth, at Chicago, per cwt.	Spring steel at Chicago, per cwt.	Black merchant pipe, ½ in. to 8 in., per ton.
1889.									
Jan	$3.57	$2.80	$1.95	$1.88	$2.29	$2.55	$2.35	$2.30	$54.60
Feb	3.60	2.75	2.00	1.87	2.30	2.40	2.30	2.20	50.20
Mar	3.53½	2.70	1.95	1.88	2.27½	2.35	2.30	2.20	50.60
Apr	3.50	2.70	1.95	1.87	2.55	2.35	2.40	2.50	51.20
May	3.50	2.65	1.90	1.83	2.42	2.30	2.40	2.50	49.40
June	(b)	2.65	1.85	1.82	2.25	2.30	2.45	2.50	52.20
July	(b)	2.65	1.85	1.84	2.25	2.30	2.45	2.50	55.20
Aug	(b)	2.65	1.85	1.87	2.25	2.25	2.70	2.25	55.80
Sept	3.30	2.75	2.00	1.90	2.25	2.35	2.70	2.30	56.20
Oct	3.80	3.05	2.40	2.05	2.65	2.55	2.70	2.50	57.20
Nov	3.90	3.15	2.40	2.25	3.00	3.15	2.75	2.55	63.40
Dec	3.90	3.25	2.52½	2.25	3.00	3.00	2.80	2.65	64.20
1890.									
Jan	4.00	3.25	2.50	2.35	2.85	2.90	2.85	2.85	66.40
Feb	4.00	3.35	2.40	2.25	2.85	2.95	2.80	2.85	61.20
Mar	3.97	3.30	2.30	2.25	2.76½	2.75	2.75	2.75	61.80
Apr	(b)	3.15	2.10	1.90	2.48½	2.40	2.75	2.80	63.60
May	3.17½	2.90	1.85	1.60	2.22	2.30	2.70	2.80	63.20
June	3.25	2.85	1.95	2.00	2.26½	2.40	2.60	2.60	62.00
July	3.28½	2.85	2.00	1.88	2.30	2.40	2.60	2.60	61.40
Aug	(b)	2.85	2.00	1.85	2.41½	2.50	2.65	2.60	61.20
Sept	3.32	2.85	1.95	1.85	2.38½	2.55	2.65	2.85	61.60
Oct	3.29	2.85	1.95	1.85	2.29	2.40	2.65	2.85	63.20
Nov	3.11½	2.75	1.85	1.83	2.22½	2.30	2.65	2.70	61.80
Dec	3.00	2.70	1.75	1.82	2.13½	2.25	2.65	2.70	62.60
1891.									
Jan	3.25	2.70	1.75	1.60	2.12	2.22	2.50	2.50	61.60
Feb	3.10	2.70	1.75	1.62	2.15	2.27	2.40	2.50	61.00
Mar	3.40	2.85	1.80	1.65	2.15	2.22	2.40	2.50	62.00
Apr	3.50	2.85	1.75	1.55	2.08	2.12	2.30	2.50	59.40
May	3.50	2.82½	1.70	1.60	2.00	2.05	2.30	2.50	56.00
June	3.50	2.75	1.70	1.60	1.95	2.02	2.30	2.40	55.40
July	3.50	2.70	1.65	1.60	2.00	2.07	2.30	2.40	53.20
Aug	3.25	2.77½	1.70	1.55	1.95	2.02	2.30	2.40	53.60
Sept	3.25	2.80	1.70	1.60	1.85	2.00	2.25	2.25	54.40
Oct	3.05	2.55	1.65	1.60	1.82	1.90	2.30	2.25	54.00
Nov	3.05	2.55	1.65	1.60	1.71	1.85	2.30	2.25	55.00
Dec	3.05	2.55	1.65	1.58	1.68	1.80	2.25	2.25	52.40
1892.									
Jan	3.05	2.60	1.62½	1.55	1.67	1.82	2.15	2.07½	50.40
Feb	2.77	2.45	1.62½	1.49	1.71	1.87	2.15	2.10	49.40
Mar	2.65	2.40	1.62½	1.50	1.73	1.85	2.12½	2.12½	48.60
Apr	2.65	2.30	1.60	1.55	1.66	1.75	2.12½	2.12½	47.80
May	2.65	2.30	1.60	1.48	1.60	1.70	2.12½	2.12½	47.40
June	2.65	2.30	1.62½	1.47	1.50	1.57	2.12½	2.12½	48.20
July	2.62	2.30	1.60	1.50	1.57	1.70	2.12½	2.12½	47.00
Aug	2.62	2.20	1.62½	1.50	1.61	1.70	2.10	2.10	47.80
Sept	2.60	2.20	1.62½	1.51	1.57	1.67	2.07½	2.07½	48.20
Oct	2.52	2.15	1.62½	1.50	1.50	1.57	2.10	2.10	50.00
Nov	2.41	2.15	1.60	1.49	1.47	1.60	2.05	2.05	50.20
Dec	2.42	2.10	1.60	1.45	1.46	1.60	2.05	2.05	51.80
1893.									
Jan	2.37	2.40	1.60	1.42	1.37	1.57	2.10	2.10	50.40
Feb	2.40	2.40	1.60	1.42	1.39	1.55	2.10	2.10	49.20
Mar	2.42	2.45	1.42½	1.15	1.50	1.65	2.10	2.10	48.80
Apr	2.45	2.45	1.35	1.15	1.55	1.65	2.10	2.10	48.00
May	2.45	2.45	1.32½	1.10	1.51	1.60	2.00	2.10	46.40
June	2.45	2.45	1.25	1.05	1.39	1.50	1.95	2.10	47.40
July	2.45	2.45	1.22½	1.05	1.35	1.47	1.95	2.05	51.20
Aug	2.45	2.45	1.22½	1.05	1.44	1.47	1.95	2.05	50.60
Sept	2.40	2.35	1.22½	1.00	1.45	1.47	1.95	2.00	46.40
Oct	2.26	2.25	1.22½	1.00	1.30	1.40	1.95	1.95	47.20
Nov	2.15	2.15	1.20	1.00	1.18	1.30	1.95	1.95	47.00
Dec	2.10	2.10	1.17½	1.00	1.12	1.27	1.95	1.95	46.50
1894.									
Jan	2.05	2.25	1.15	.95	1.10	1.17	1.90	1.95	43.40
Feb	2.09	2.25	1.05	.99	1.09	1.20	1.90	1.90	41.40
Mar	2.15	2.30	1.02½	.99	1.09	1.15	1.80	1.90	39.20
Apr	2.10	2.20	1.00	.91	.94	1.00	1.75	1.85	37.70
May	2.05	2.15	.95	.90	1.05	1.07	1.75	1.85	37.60
June	2.07	2.20	.95	.94	1.11	1.20	1.75	1.85	37.60

a The prices from January, 1889, to December, 1893, are for painted wire; those from January, 1894, to December, 1899, are for galvanized wire.
b Not reported.

TABLE IV.—MONTHLY PRICES OF FINISHED IRON AND STEEL, 18
1899—Concluded.

Year and month.	Barbed wire, galvanized, at mill, per cwt.	Barbed wire at Chicago, per cwt.	Cut steel nails at Chicago, per cwt.	Cut nails at Pittsburg, per cwt.	Wire nails at New York, per cwt.	Wire nails at Chicago, per cwt.	Machinery steel, open hearth, at Chicago, per cwt.	Spring steel at Chicago, per cwt.	m p
1894.									
July	$2.05	$2.25	$1.00	$0.95	$1.14	$1.20	$1.70	$1.85	
Aug	2.03	2.25	.95	.90	1.07	1.15	1.65	1.85	
Sept	2.00	2.20	.95	.90	.99	1.10	1.60	1.80	
Oct	1.99	2.15	.90	.85	.99	1.05	1.55	1.75	
Nov	1.90	2.00	.90	.86	.92	1.05	1.55	1.75	
Dec	1.85	1.95	.90	.80	.85	1.00	1.55	1.65	
1895.									
Jan	1.86	1.90	.95	.81	.86	.95	1.50	1.60	
Feb	1.89	1.90	.95	.80	.90	.95	1.50	1.55	
Mar	1.89	1.95	.90	.76	.94	1.00	1.50	1.50	
Apr	1.83	1.90	.90	.70	.87	.95	1.50	1.50	
May	1.81	1.95	.92½	.81	.97	1.10	1.50	1.60	
June	1.89	2.10	1.25	1.19	1.27	1.50	1.70	1.80	
July	2.00	2.15	1.70	1.43	a1.68	1.95	1.80	1.95	
Aug	2.40	2.55	1.95	1.80	2.05	2.20	1.85	2.10	
Sept	2.70	2.85	2.15	1.96	2.25	2.40	1.90	2.15	
Oct	2.70	2.85	2.15	2.00	2.25	2.40	1.90	2.20	
Nov	2.56	2.85	2.17½	2.00	2.25	2.42	1.95	2.20	
Dec	2.03	2.00	2.17½	2.00	a2.25	2.42	1.80	2.10	
1896.									
Jan	1.90	2.02½	2.17	2.00	2.25	2.42	1.75	2.00	
Feb	1.89	1.97½	2.17	2.00	2.25	2.42	1.70	1.95	
Mar	1.85	1.95	2.32	2.15	2.40	2.57	1.65	1.90	
Apr	1.97	2.05	2.30	2.21	2.46	2.55	1.60	1.85	
May	2.00	2.15	2.45	2.30	2.55	2.70	1.60	1.85	
June	1.95	2.00	2.45	2.30	2.55	2.70	1.60	1.85	
July	1.87	2.00	2.45	2.30	2.55	2.70	1.60	1.85	
Aug	1.85	1.90	2.45	2.30	2.55	2.70	1.60	1.85	
Sept	1.80	1.85	2.45	2.30	2.55	2.70	1.60	1.85	
Oct	1.73	1.85	2.45	2.30	2.55	2.70	1.60	1.85	
Nov	1.76	1.85	2.45	2.09	2.29	2.70	1.60	1.85	
Dec	1.84	1.95	1.50	1.41	2.51	a1.60	1.60	1.85	
1897.									
Jan	1.76	1.90	1.50	1.28	1.39	1.47	1.60	1.85	
Feb	1.73	1.85	1.50	1.25	1.35	1.45	1.57½	1.80	
Mar	1.70	1.90	1.45	1.25	1.40	1.50	1.55	1.75	
Apr	1.70	1.80	1.40	1.25	1.40	1.47	1.55	1.75	
May	1.68	1.80	1.35	1.23	1.35	1.43	1.50	1.60	
June	1.64	1.75	1.30	1.23	1.31	1.41	1.50	1.60	
July	1.60	1.75	1.35	1.20	1.25	1.35	1.45	1.55	
Aug	1.60	1.65	1.40	1.19	1.26	1.36	1.40	1.60	
Sept	1.70	1.80	1.40	1.19	1.41	1.49	1.45	1.70	
Oct	1.70	1.80	1.55	1.28	1.49	1.54	1.60	1.65	
Nov	1.69	1.80	1.45	1.14	1.41	1.49	1.60	1.65	
Dec	1.75	1.80	1.45	1.12	1.39	1.49	1.60	1.65	
1898.									
Jan	1.71	1.90	1.45	1.10	1.42	1.55	1.60	1.65	
Feb	1.75	1.90	1.45	1.10	1.45	1.57	1.60	1.65	
Mar	1.77	1.90	1.47½	1.10	1.43	1.55	1.60	1.60	
Apr	1.65	1.87½	1.37½	1.08	1.31	1.47	1.60	1.60	
May	1.66	1.80	1.35	1.08	1.31	1.45	1.50	1.60	
June	1.70	1.80	1.35	1.06	1.35	1.43	1.50	1.60	
July	1.70	1.80	1.35	1.06	1.31	1.36	1.50	1.60	
Aug	1.65	1.80	1.35	1.05	1.26	1.36	1.50	1.60	
Sept	1.67	1.80	1.35	1.08	1.32	1.43	1.55	1.60	
Oct	1.71	1.82½	1.35	1.10	1.33	1.46	1.55	1.60	
Nov	1.71	1.82½	1.35	1.10	1.28	1.39	1.55	1.60	
Dec	1.60	1.82½	1.35	1.10	1.27	1.37	1.55	1.60	
1899.									
Jan	1.88	2.05	1.40	1.18	1.43	1.59	1.55	1.60	
Feb	2.02	2.25	1.40	1.22	1.57	1.73	1.60	1.75	
Mar	2.43	2.62½	1.65	1.48	1.94	2.09	2.10	2.25	
Apr	2.60	2.80	1.85	1.67	2.05	2.25	2.40	2.40	
May	2.70	2.95	1.90	1.65	2.10	2.35	2.40	2.50	
June	2.90½	3.20	2.00	1.97	2.30	2.57	2.55	2.85	
July	3.02½	3.30	2.30	2.20	2.42½	2.70	2.70	3.20	
Aug	3.10	3.40	2.35	2.20	2.50	2.80	2.90	3.20	
Sept	3.36½	3.67½	2.55	2.50	2.76½	3.06	2.95	3.50	
Oct	3.55	3.77½	2.70	2.50	2.95	3.17	2.95	3.60	
Nov	3.55	3.88	2.80	2.40	2.95	3.28	2.95	3.60	
Dec	3.47½	4.13	2.80	2.45	2.87½	3.28	2.95	3.60	

a Change of base.

TABLE V.—RELATIVE MONTHLY PRICES OF FINISHED IRON AND STEEL, 1889 TO 1899.

[The combinations controlling the most of these products were organized in December, 1898, and the first half of 1899.]

Year and month.	Bar iron, common, at Chicago.	Bar iron, best refined, from store at Philadelphia.	Bar iron at Philadelphia.	Bar iron, all muck, at Pittsburg.	Steel tank plates at Philadelphia.	Steel beams at Philadelphia.	Steel angles at Chicago.	Skelp (plates).	Sheets, No. 27, at Chicago.
1889.									
Jan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Feb	98.5	95.0	100.0	97.1	98.0	100.0	98.8	96.7	100.0
Mar	95.6	90.0	98.4	94.8	95.1	100.0	98.8	98.0	98.4
Apr	94.1	90.0	97.3	94.3	95.1	100.0	98.8	91.8	100.0
May	91.2	92.5	97.3	91.4	95.1	100.0	97.7	87.5	96.7
June	91.2	95.0	97.3	91.4	95.1	100.0	97.7	92.0	98.4
July	94.1	95.0	100.0	91.4	98.0	100.0	100.0	92.0	102.3
Aug	97.1	97.5	102.7	98.3	98.0	100.0	104.7	93.3	103.9
Sept	100.0	97.5	102.7	100.0	107.3	100.0	104.7	94.9	104.9
Oct	102.9	100.0	103.8	102.9	108.3	100.0	107.0	96.8	108.2
Nov	108.8	102.5	104.3	102.9	109.8	110.7	109.3	100.2	108.2
Dec	113.2	107.5	105.4	108.6	113.7	110.7	111.6	101.0	108.2
1890.									
Jan	114.7	110.0	106.5	108.6	134.1	110.7	118.6	103.7	108.2
Feb	111.8	110.0	103.8	108.6	126.8	110.7	118.6	99.8	108.2
Mar	105.9	105.0	102.7	105.7	124.4	110.7	116.3	101.4	104.9
Apr	102.9	105.0	102.7	105.7	119.5	110.7	109.3	103.2	101.6
May	100.0	105.0	100.0	100.0	114.6	110.7	104.7	101.9	98.4
June	105.9	100.0	98.9	102.9	114.6	110.7	104.7	99.3	103.3
July	105.9	95.0	98.4	102.9	117.1	110.7	107.0	99.0	103.3
Aug	108.8	97.5	100.0	105.7	119.5	110.7	109.3	102.8	106.6
Sept	111.8	100.0	100.0	105.7	119.5	110.7	109.3	103.4	106.6
Oct	108.8	100.0	102.7	105.7	119.5	110.7	109.3	104.5	104.9
Nov	105.9	100.0	102.7	105.7	119.5	110.7	109.3	103.6	103.3
Dec	104.4	100.0	98.9	105.7	114.6	110.7	109.3	103.0	100.0
1891.									
Jan	100.0	100.0	98.4	102.9	104.9	110.7	107.0	101.6	96.7
Feb	101.5	95.0	98.9	100.0	104.9	110.7	104.7	98.6	96.7
Mar	100.0	95.0	94.6	100.0	101.5	110.7	104.7	101.3	98.4
Apr	97.1	95.0	97.3	97.1	104.9	110.7	104.7	96.7	96.7
May	97.1	95.0	91.9	97.1	104.9	110.7	104.7	94.2	98.4
June	98.5	95.0	97.3	97.1	103.4	110.7	100.0	93.1	98.4
July	98.5	95.0	91.9	97.1	102.4	110.7	97.7	91.4	96.7
Aug	98.5	95.0	94.6	97.1	101.0	110.7	97.7	90.5	96.7
Sept	102.9	95.0	94.6	97.1	100.0	110.7	97.7	91.9	96.7
Oct	102.9	92.5	91.9	97.1	100.0	110.7	95.3	93.4	96.7
Nov	98.5	92.5	91.9	96.0	100.0	110.7	97.7	93.3	95.1
Dec	100.0	95.0	91.9	96.0	100.0	110.7	97.7	91.2	96.7
1892.									
Jan	97.1	92.5	92.4	97.1	91.2	110.7	93.0	89.7	95.1
Feb	98.5	92.5	91.9	96.0	90.2	84.3	90.7	87.9	95.1
Mar	95.6	92.5	91.9	92.6	90.2	80.4	90.7	87.1	98.4
Apr	92.6	95.0	91.9	91.4	89.8	78.6	88.4	85.3	98.4
May	89.7	95.0	90.3	90.3	85.9	76.8	86.0	85.3	90.2
June	91.2	95.0	90.3	91.4	85.4	75.0	86.0	86.8	91.8
July	95.6	95.0	91.9	97.1	89.8	76.8	97.7	87.4	95.1
Aug	97.1	95.0	94.1	96.0	97.1	82.1	97.7	90.3	96.7
Sept	97.1	92.5	93.0	93.7	92.7	79.3	95.3	89.9	95.1
Oct	95.6	92.5	91.9	95.4	92.7	78.6	93.0	89.0	96.7
Nov	95.6	92.5	91.9	93.7	91.2	78.6	90.7	88.5	98.4
Dec	95.6	90.0	89.7	91.4	90.2	73.9	88.4	93.1	96.7
1893.									
Jan	92.6	90.0	89.2	90.9	90.2	71.4	90.7	89.2	95.1
Feb	91.2	90.0	89.2	89.1	88.8	71.4	88.4	87.9	94.3
Mar	92.6	87.5	88.1	89.7	87.8	71.4	88.4	87.4	98.4
Apr	89.7	87.5	87.6	88.6	87.8	71.4	88.4	86.3	98.4
May	88.2	87.5	87.6	88.6	87.8	71.4	88.4	87.1	98.4
June	86.8	87.5	87.0	86.9	85.4	71.4	83.7	87.1	98.4
July	86.8	85.0	86.5	86.9	82.9	66.1	82.6	87.5	93.4
Aug	85.3	85.0	86.5	85.7	82.9	64.3	82.6	89.2	93.4
Sept	86.8	82.5	83.8	85.7	80.5	64.3	82.6	83.0	91.8
Oct	85.3	80.0	83.8	80.0	78.0	64.3	82.6	82.3	91.0
Nov	82.4	80.0	80.5	77.1	75.6	62.5	79.1	80.5	90.2
Dec	79.4	77.5	76.8	77.1	70.7	59.6	75.6	74.9	87.7
1894.									
Jan	73.5	77.5	76.2	74.3	69.3	56.8	72.1	69.8	86.9
Feb	70.6	75.0	75.7	71.4	65.9	53.2	62.8	68.2	82.0
Mar	67.6	72.5	71.9	68.6	60.5	48.2	65.1	64.1	77.0
Apr	64.7	70.0	64.9	68.6	58.5	46.4	62.8	63.4	75.4
May	61.8	65.0	64.9	71.4	59.5	46.8	62.8	70.9	77.0
June	61.8	65.0	64.9	71.4	64.4	50.0	67.4	68.0	78.7

TABLE V.—RELATIVE MONTHLY PRICES OF FINISHED IRON AND ST
1889 TO 1899—Continued.

Year and month.	Bar iron, common, at Chicago.	Bar iron, best refined, from store at Philadelphia.	Bar iron at Philadelphia.	Bar iron, all muck, at Pittsburg.	Steel tank plates at Philadelphia.	Steel beams at Philadelphia.	Steel angles at Chicago.	Skelp (plates).	St Ne Ch
1894.									
July	64.7	65.0	64.9	68.6	65.9	50.0	67.4	66.9	
Aug	64.7	65.0	65.9	66.9	62.0	50.0	65.1	66.6	
Sept	61.8	62.5	67.0	66.9	63.4	48.2	65.1	65.6	
Oct	58.8	62.5	62.7	65.7	62.9	46.4	65.1	59.8	
Nov	61.8	60.0	62.2	65.7	60.5	46.4	65.1	60.0	
Dec	61.8	62.5	60.0	62.9	61.0	46.4	65.1	59.8	
1895.									
Jan	61.8	60.0	59.5	62.9	61.0	46.4	60.5	60.4	
Feb	58.8	60.0	62.2	62.9	59.0	46.4	60.5	61.0	
Mar	58.8	62.5	62.2	62.9	58.5	46.4	60.5	60.9	
Apr	64.7	65.0	62.2	62.9	58.5	46.4	58.1	59.4	
May	64.7	67.5	62.2	64.0	60.5	46.8	60.5	61.4	
June	70.6	67.5	62.7	69.7	67.8	51.1	69.8	69.7	
July	76.5	80.0	69.2	75.4	82.0	58.9	74.4	76.0	
Aug	82.4	85.0	81.1	77.7	88.3	59.3	81.4	78.2	
Sept	88.2	85.0	78.9	82.3	96.1	65.0	81.4	83.4	
Oct	88.2	80.0	77.8	81.1	88.3	62.5	81.4	81.5	
Nov	88.2	80.0	75.7	80.0	82.0	62.9	81.4	76.4	
Dec	82.4	72.5	71.9	78.3	73.2	60.4	74.4	76.6	
1896.									
Jan	76.5	72.5	66.5	71.4	69.8	57.1	69.8	70.8	
Feb	79.4	70.0	67.0	71.4	68.3	58.6	69.8	71.6	
Mar	76.5	67.5	66.5	69.1	68.3	55.4	67.4	68.7	
Apr	76.5	70.0	63.8	68.6	70.2	57.1	67.4	73.7	
May	76.5	70.0	64.9	68.6	70.7	60.0	67.4	72.4	
June	76.5	70.0	64.9	68.6	68.3	60.7	67.4	72.0	
July	76.5	70.0	64.9	68.6	67.3	62.9	62.8	73.5	
Aug	76.5	70.0	65.4	68.6	65.9	60.7	62.8	75.2	
Sept	76.5	70.0	64.9	68.6	63.9	60.7	60.5	68.9	
Oct	76.5	70.0	64.9	68.6	62.0	60.7	60.5	66.9	
Nov	67.6	70.0	64.9	69.7	61.0	60.7	60.5	64.4	
Dec	73.5	70.0	62.2	71.4	60.0	57.9	62.8	61.4	
1897.									
Jan	73.5	70.0	62.2	69.7	58.5	60.7	58.1	57.1	
Feb	73.5	70.0	62.2	68.6	58.5	60.7	58.1	57.6	
Mar	66.2	70.0	61.6	68.6	58.5	60.7	58.1	53.2	
Apr	61.8	62.5	62.2	65.1	58.5	60.7	55.8	52.9	
May	61.8	62.5	59.5	59.4	54.1	53.2	53.5	51.5	
June	58.8	62.5	57.8	56.6	53.7	44.6	53.5	51.2	
July	63.2	62.5	58.4	54.3	53.7	41.1	51.2	51.2	
Aug	64.7	62.5	58.4	56.6	52.7	41.1	52.3	51.5	
Sept	64.7	62.5	61.6	61.1	55.6	41.1	54.7	53.9	
Oct	67.6	67.5	64.3	65.7	56.1	42.9	55.8	58.8	
Nov	64.7	67.5	64.9	65.7	55.6	42.9	55.8	56.9	
Dec	64.7	67.5	62.2	65.7	55.1	42.9	55.8	53.4	
1898.									
Jan	61.8	70.0	60.0	65.7	53.7	46.4	60.5	53.8	
Feb	61.8	67.5	60.0	65.7	53.7	46.4	53.5	54.1	
Mar	61.8	67.5	57.3	60.0	52.7	46.4	53.5	53.6	
Apr	63.2	62.5	56.8	60.0	54.6	46.4	60.5	54.0	
May	64.7	62.5	56.8	60.0	59.0	46.4	58.1	52.5	
June	66.2	62.5	56.8	60.0	60.0	46.4	55.8	52.3	
July	60.3	62.5	54.1	60.0	58.5	46.4	55.8	52.3	
Aug	61.8	62.5	57.3	60.0	60.0	48.9	60.5	52.6	
Sept	61.8	62.5	61.6	61.7	62.0	50.0	60.5	56.3	
Oct	61.8	62.5	61.1	62.9	62.0	49.3	60.5	56.6	
Nov	60.3	62.5	59.5	59.4	61.0	48.2	60.5	55.3	
Dec	61.8	62.5	60.0	57.1	61.5	48.2	60.5	55.0	
1899.									
Jan	61.8	65.0	62.2	64.0	65.9	50.0	65.1	56.1	
Feb	67.6	72.5	64.9	69.7	75.6	50.7	65.1	59.6	
Mar	85.3	85.0	76.2	78.9	92.2	55.4	72.1	69.6	
Apr	92.6	87.5	81.1	94.3	106.3	58.6	81.4	82.0	
May	95.6	95.0	84.3	100.0	108.8	58.2	81.4	92.3	
June	105.9	100.0	97.8	107.4	121.0	65.0	88.4	103.0	1
July	108.8	115.0	108.1	114.3	129.3	76.8	100.0	116.0	1
Aug	117.6	120.0	108.1	130.3	136.6	85.7	104.7	125.1	1
Sept	132.4	125.0	113.5	142.9	146.3	85.7	111.6	120.3	1
Oct	135.3	125.0	113.5	148.6	146.3	85.7	111.6	124.6	1
Nov	135.3	125.0	118.9	146.3	129.3	85.7	111.6	116.5	1
Dec	135.3	125.0	110.8	142.9	117.1	85.7	111.6	101.4	

TABLE V.—RELATIVE MONTHLY PRICES OF FINISHED IRON AND STEEL, 1889 TO 1899—Continued.

Year and month.	Barbed wire, galvanized, at mill.	Barbed wire at Chicago. (a)	Cut steel nails at Chicago.	Cut nails at Pittsburg.	Wire nails at New York.	Wire nails at Chicago.	Machinery steel, open hearth, at Chicago.	Spring steel at Chicago.	Black merchant pipe, ½ in. to 8 in.
1889.									
Jan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Feb	100.8	98.2	102.6	99.5	100.4	94.1	97.9	95.7	91.9
Mar	99.1	96.4	100.0	100.0	99.3	92.2	97.9	95.7	92.7
Apr	98.0	96.4	100.0	99.5	111.4	92.2	102.1	108.7	93.8
May	98.0	94.6	97.4	97.3	105.7	90.2	102.1	108.7	90.5
June	(b)	94.6	94.9	96.8	98.3	90.2	104.3	108.7	95.6
July	(b)	94.6	94.9	97.9	98.3	90.2	104.3	108.7	101.1
Aug	(b)	94.6	94.9	99.5	98.3	88.2	114.9	97.8	102.2
Sept	92.4	98.2	102.6	101.1	98.3	92.2	114.9	100.0	102.9
Oct	106.4	108.9	123.1	109.0	115.7	100.0	114.9	108.7	104.8
Nov	109.2	112.5	123.1	119.7	131.0	123.5	117.0	110.9	116.1
Dec	109.2	116.1	129.5	119.7	131.0	117.6	119.1	115.2	117.6
1890.									
Jan	112.0	116.1	128.2	125.0	124.5	113.7	121.3	123.9	121.6
Feb	112.0	119.6	123.1	119.7	124.5	115.7	119.1	123.9	112.1
Mar	111.2	117.9	117.9	119.7	120.6	107.8	117.0	119.6	118.2
Apr	(b)	112.5	107.7	101.1	108.6	94.1	117.0	121.7	116.5
May	88.9	103.6	94.9	85.1	96.9	90.2	114.9	121.7	115.8
June	91.0	101.8	100.0	106.4	98.8	94.1	110.6	113.0	113.6
July	92.0	101.8	102.6	100.0	100.4	94.1	110.6	113.0	112.5
Aug	(b)	101.8	102.6	98.4	105.3	98.0	112.8	113.0	112.1
Sept	93.0	101.8	100.0	98.4	104.3	100.0	112.8	123.9	112.8
Oct	92.2	101.8	100.0	98.4	100.0	94.1	112.8	123.9	115.8
Nov	87.2	98.2	94.9	97.3	97.2	90.2	112.8	117.4	113.2
Dec	84.0	96.4	89.7	96.8	93.3	88.2	112.8	117.4	114.7
1891.									
Jan	91.0	96.4	89.7	85.1	92.6	87.1	106.4	108.7	112.8
Feb	86.8	96.4	89.7	86.2	93.9	89.0	102.1	108.7	111.7
Mar	95.2	101.8	92.3	87.8	93.9	87.1	102.1	108.7	113.6
Apr	98.0	101.8	89.7	82.4	90.8	83.1	97.9	108.7	108.8
May	98.0	100.9	87.2	85.1	87.3	80.4	97.9	108.7	102.6
June	98.0	98.2	87.2	85.1	85.2	79.2	97.9	104.3	101.5
July	98.0	96.4	84.6	85.1	87.3	81.2	97.9	104.3	97.4
Aug	91.0	99.1	87.2	82.4	85.2	79.2	97.9	104.3	98.2
Sept	91.0	100.0	87.2	85.1	80.8	78.4	95.7	97.8	99.6
Oct	85.4	91.1	84.6	85.1	79.5	74.5	97.9	97.8	98.9
Nov	85.4	91.1	84.6	85.1	74.7	72.5	97.9	97.8	100.7
Dec	85.4	91.1	84.6	84.0	73.4	70.6	95.7	97.8	96.0
1892.									
Jan	85.4	92.9	83.3	82.4	72.9	71.4	91.5	90.2	92.3
Feb	77.6	87.5	83.3	79.3	74.7	73.3	91.5	91.3	90.5
Mar	74.2	85.7	83.3	79.8	75.5	72.5	90.4	92.4	89.0
Apr	74.2	82.1	82.1	82.4	72.5	68.6	90.4	92.4	87.5
May	74.2	82.1	82.1	78.7	69.9	66.7	90.4	92.4	86.8
June	74.2	82.1	83.3	78.2	65.5	61.6	90.4	92.4	88.3
July	73.4	82.1	82.1	79.8	68.6	66.7	90.4	92.4	86.1
Aug	73.4	78.6	83.3	79.8	70.3	66.7	89.4	91.3	87.5
Sept	72.8	78.6	83.3	80.3	68.6	65.5	88.3	90.2	88.3
Oct	70.6	76.8	83.3	79.8	65.5	61.6	89.4	91.3	91.6
Nov	67.5	76.8	82.1	79.3	64.2	62.7	87.2	89.1	91.9
Dec	67.8	75.0	82.1	77.1	63.8	62.7	87.2	89.1	94.9
1893.									
Jan	66.4	85.7	82.1	75.5	59.8	61.6	89.4	91.3	92.3
Feb	67.2	85.7	82.1	75.5	60.7	60.8	89.4	91.3	90.1
Mar	67.8	87.5	78.1	61.2	65.5	64.7	89.4	91.3	89.4
Apr	68.6	87.5	69.2	61.2	67.7	64.7	89.4	91.3	87.9
May	68.6	87.5	67.9	58.5	65.9	62.7	85.1	91.3	85.0
June	68.6	87.5	64.1	55.9	60.7	58.8	83.0	91.3	86.8
July	68.6	87.5	62.8	55.9	59.0	57.6	83.0	89.1	93.8
Aug	68.6	87.5	62.8	55.9	62.9	57.6	83.0	89.1	92.7
Sept	67.2	83.9	62.8	58.2	63.3	57.6	83.0	87.0	85.0
Oct	63.3	80.4	62.8	58.2	56.8	54.9	83.0	84.8	86.4
Nov	60.2	76.8	61.5	58.2	51.5	51.0	83.0	84.8	86.1
Dec	58.8	75.0	60.3	58.2	48.9	49.8	83.0	84.8	85.2
1894.									
Jan	57.4	80.4	59.0	50.5	48.0	45.9	80.9	84.8	79.5
Feb	58.5	80.4	53.8	52.7	47.6	47.1	80.9	82.6	75.8
Mar	60.2	82.1	52.6	52.7	47.6	45.1	76.6	82.6	71.8
Apr	58.8	78.6	51.3	48.4	41.0	39.2	74.5	80.4	69.0
May	57.4	76.8	48.7	47.9	45.9	42.0	74.5	80.4	68.9
June	58.0	78.6	48.7	50.0	48.5	47.1	74.5	80.4	68.9
July	57.4	80.4	51.3	50.5	49.8	47.1	72.3	80.4	68.9
Aug	56.9	80.4	48.7	47.9	46.7	45.1	70.2	80.4	71.4
Sept	56.0	78.6	48.7	47.9	43.2	43.1	68.1	78.3	69.6
Oct	55.7	76.8	46.2	45.2	43.2	41.2	66.0	76.1	71.1
Nov	53.2	71.4	46.2	45.7	40.2	41.2	66.0	76.1	65.2
Dec	51.8	69.6	46.2	42.6	37.1	39.2	66.0	71.7	64.5

a See note a, page 819. b Not reported.

TABLE V.—RELATIVE MONTHLY PRICES OF FINISHED IRON AND STEEL, 1889 TO 1899—Concluded.

Year and month.	Barbed wire, galvanized, at mill.	Barbed wire at Chicago.	Cut steel nails at Chicago.	Cut nails at Pittsburg.	Wire nails at New York.	Wire nails at Chicago.	Machinery steel, open hearth, at Chicago.	Spring steel at Chicago.	Black merchant pipe, ½ in. to 8 in.
1895.									
Jan	52.1	67.9	48.7	43.1	37.6	37.3	63.8	69.6	66.1
Feb	52.9	67.9	48.7	42.6	39.3	37.3	63.8	67.4	63.2
Mar	52.9	69.6	46.2	40.4	41.0	39.2	63.8	65.2	67.4
Apr	51.3	67.9	46.2	37.2	38.0	37.3	63.8	65.2	67.0
May	50.7	69.6	47.4	43.1	42.4	43.1	63.8	69.6	64.8
June	52.9	75.0	64.1	63.3	55.5	58.8	72.3	78.3	66.7
July	56.0	76.8	87.2	76.1	73.4	76.5	76.6	84.8	71.4
Aug	67.2	91.1	100.0	95.7	89.5	86.3	78.7	91.3	82.8
Sept	75.6	101.8	110.3	104.3	98.3	94.1	80.9	93.5	87.5
Oct	75.6	101.8	110.3	106.4	98.3	94.1	80.9	95.7	88.1
Nov	71.7	101.8	111.5	106.4	98.3	94.9	83.0	95.7	87.9
Dec	56.9	71.4	111.5	106.4	98.3	94.9	76.6	91.3	88.8
1896.									
Jan	53.2	72.3	111.3	106.4	98.3	94.9	74.5	87.0	75.1
Feb	52.9	70.5	111.3	106.4	98.3	94.9	72.3	84.8	75.5
Mar	51.8	69.6	119.0	114.4	104.8	100.8	70.2	82.6	72.2
Apr	55.2	73.2	117.9	117.6	107.4	100.0	68.1	80.4	72.9
May	56.0	76.8	125.6	122.3	111.4	105.9	68.1	80.4	70.7
June	54.6	71.4	125.6	122.3	111.4	105.9	68.1	80.4	68.5
July	52.4	71.4	125.6	122.3	111.4	105.9	68.1	80.4	72.2
Aug	51.8	67.9	125.6	122.3	111.4	105.9	68.1	80.4	69.5
Sept	50.4	66.1	125.6	122.3	111.4	105.9	68.1	80.4	61.8
Oct	48.5	66.1	125.6	122.3	111.4	105.9	68.1	80.4	64.7
Nov	49.3	66.1	125.6	111.2	100.0	105.9	68.1	80.4	63.6
Dec	51.5	69.6	76.9	75.0	109.6	62.7	68.1	80.4	63.8
1897.									
Jan	49.3	67.9	76.9	68.1	60.7	57.6	68.1	80.4	65.4
Feb	48.5	66.1	76.9	66.5	59.0	56.9	67.0	78.3	66.1
Mar	47.6	67.9	74.4	66.5	61.1	58.8	66.0	76.1	61.9
Apr	47.6	64.3	71.8	66.5	61.1	57.6	66.0	76.1	59.6
May	47.1	64.3	69.2	65.4	59.0	56.1	63.8	69.6	59.0
June	45.9	62.5	66.7	65.4	57.2	55.3	63.8	69.6	59.1
July	44.8	62.5	69.2	63.8	54.6	52.9	61.7	67.4	61.5
Aug	44.8	58.9	71.8	63.3	55.0	53.3	59.6	69.6	61.7
Sept	47.6	64.3	71.8	63.3	61.6	58.4	61.7	73.9	64.1
Oct	47.6	64.3	79.5	68.1	65.1	60.4	68.1	71.7	65.2
Nov	47.3	64.3	74.4	60.6	61.6	58.4	68.1	71.7	65.2
Dec	49.0	64.3	74.4	59.6	60.7	58.4	68.1	71.7	66.1
1898.									
Jan	47.9	67.9	74.4	58.5	62.0	60.8	68.1	71.7	64.3
Feb	49.0	67.9	74.4	58.5	63.3	61.6	68.1	71.7	61.8
Mar	49.6	67.9	75.6	58.5	62.4	60.8	68.1	69.6	62.1
Apr	46.2	67.0	70.5	57.4	57.2	57.6	68.1	69.6	51.2
May	46.5	64.3	69.2	57.4	57.2	56.9	63.8	69.6	51.1
June	47.6	64.3	69.2	56.4	59.0	56.1	63.8	69.6	50.6
July	47.6	64.3	69.2	56.4	57.2	53.3	63.8	69.6	52.0
Aug	46.2	64.3	69.2	55.9	55.0	53.3	63.8	69.6	52.5
Sept	46.8	64.3	69.2	57.4	57.6	56.1	66.0	69.6	57.6
Oct	47.9	65.2	69.2	58.5	58.1	57.3	66.0	69 6	59.4
Nov	47.9	65.2	69.2	58.5	55.9	54.5	66.0	69 6	61.2
Dec	44.8	65.2	69.2	58.5	55.5	53.7	66.0	69.6	62.0
1899.									
Jan	52.7	73.2	71.8	62.8	62.4	62.4	66.0	69.6	64.9
Feb	56.6	80.4	71.8	64.9	68.6	67.8	68.1	76.1	59.7
Mar	68.1	93.8	84.6	78.7	84.7	82.0	89.4	97.8	58.8
Apr	72.8	100.0	94.9	88.8	89.5	88.2	102.1	104.3	64.0
May	75.6	105.4	97.4	87.8	91.7	92.2	102.1	108.7	66.2
June	81.4	114.3	102.6	104.8	100.4	100.8	108.5	123.9	74.1
July	84.7	117.9	117.9	117.0	105.9	105.9	114.9	139.1	87.6
Aug	86.8	121.4	120.5	117.0	109.2	109.8	123.4	139.1	117.3
Sept	94.3	131.3	130.8	133.0	120.7	120.0	125.5	152.2	122.3
Oct	99.4	134.8	138.5	133.0	128.8	124.3	125.5	156.5	141.2
Nov	99.4	138.6	143.6	127.7	128.8	128.6	125.5	156.5	146.1
Dec	97.3	147.5	143.6	130.3	125.5	128.6	125.5	156.5	149.5

TABLE VI.—MONTHLY PRICES OF OLD MATERIAL, COAL, AND COKE, 1889 TO 1899.

[The prices of coal and Pennsylvania coke are from the Chicago Board of Trade, of Connellsville coke from the Geological Survey; other prices are from the Iron Age. The combinations controlling the most of these products were organized in 1898 and the first half of 1899.]

Year and month.	Old iron rails at Chicago, per 2,240 lbs.	Scrap, No. 1, mill, at Chicago, per 2,000 lbs.	Scrap, cast, at Chicago, per 2,000 lbs.	Coal, Youghiogheny, at Chicago, per 2,000 lbs.	Coke, Connellsville, f. o. b. at ovens, per 2,000 lbs.	Coke, Pennsylvania, at Chicago, per 2,000 lbs.
1889.						
January	$21.50	$14.00	$13.50	$3.28	$1.25	$4.25
February	20.50	14.00	13.25	3.28	1.25	4.25
March	21.00	14.00	13.00	3.18	1.25	4.25
April	20.00	13.50	12.50	3.18	1.15	4.25
May	19.50	13.00	11.50	3.13	1.10	4.15
June	20.00	13.00	11.00	3.13	1.10	4.00
July	21.50	14.00	11.50	3.13	1.05	3.95
August	22.50	14.25	12.00	3.13	1.10	3.95
September	24.50	14.50	12.00	3.13	1.37½	4.40
October	25.25	16.00	13.00	3.13	1.50	4.40
November	26.00	17.00	13.50	3.23	1.75	4.55
December	26.25	17.50	14.50	3.23	1.75	4.80
1890.						
January	26.00	16.50	14.00	3.23	1.75	4.95
February	25.00	16.50	13.50	3.23	1.75	5.35
March	23.75	15.50	13.50	3.23	2.15	5.20
April	23.00	14.50	13.00	3.23	2.15	5.20
May	22.50	14.00	13.00	3.08	2.15	5.20
June	25.00	15.50	13.00	3.28	2.15	5.20
July	26.00	16.00	13.00	3.28	2.15	5.20
August	26.50	16.50	14.00	3.28	2.15	5.20
September	27.00	16.50	13.50	3.35	2.15	5.20
October	26.50	16.00	13.50	3.35	2.15	5.20
November	25.50	15.50	13.50	3.35	2.15	5.20
December	23.50	14.50	13.00	3.40	2.15	5.20
1891.						
January	23.00	14.00	12.50	3.30	1.90	5.05
February	23.00	13.75	12.50	3.30	1.90	5.05
March	23.25	13.75	12.25	3.30	1.90	5.05
April	22.75	13.50	12.00	3.30	1.90	5.05
May	22.75	13.50	12.00	3.30	1.90	5.05
June	22.75	13.75	12.25	3.25	1.90	5.05
July	23.25	14.25	12.00	3.25	1.90	5.05
August	23.00	14.50	12.75	3.25	1.90	5.05
September	23.00	14.25	12.25	3.40	1.85	5.05
October	22.25	13.75	12.25	3.40	1.85	5.05
November	22.00	13.25	12.00	3.75	1.80	5.05
December	21.75	12.50	12.00	3.75	1.80	5.05
1892.						
January	22.00	12.50	12.00	3.40	1.90	5.05
February	21.75	12.50	12.50	3.40	1.90	5.05
March	20.00	11.50	12.00	3.35	1.90	5.05
April	19.50	11.00	11.50	3.35	1.90	5.05
May	18.50	10.50	11.50	3.25	1.80	5.05
June	18.25	10.00	11.50	3.25	1.80	5.05
July	18.00	11.00	11.50	3.25	1.75	5.05
August	18.00	11.00	11.50	3.25	1.75	5.05
September	17.75	11.00	11.50	3.35	1.75	5.05
October	18.25	11.00	11.50	3.35	1.75	5.05
November	18.50	11.00	11.50	3.45	1.75	5.05
December	18.75	11.00	11.50	3.50	1.75	5.05
1893.						
January	18.50	10.75	11.25	3.50	1.90	5.05
February	18.50	10.75	11.25	3.50	1.90	5.05
March	18.25	10.75	11.25	3.50	1.90	5.05
April	17.75	10.50	11.25	3.41	1.70	5.05
May	17.50	10.00	11.00	3.35	1.60	5.05
June	17.00	9.00	10.25	3.35	1.50	5.05
July	16.00	9.00	10.00	3.25	1.45	5.05
August	15.00	8.50	9.00	3.25	1.25	5.05
September	14.50	8.00	8.00	3.25	1.20	4.50
October	14.50	8.00	8.50	3.25	1.20	4.50
November	14.50	8.00	9.50	3.25	1.10	4.20
December	14.00	8.00	9.50	3.25	1.05	4.20
1894.						
January	13.00	8.25	8.75	3.25	.97½	4.20
February	12.00	6.75	7.75	3.25	.95	4.20
March	10.50	6.75	7.50	3.20	1.00	4.20
April	10.00	6.50	7.50	3.15	.92	3.90
May	10.00	6.50	7.25	3.10	.92	3.90
June	9.75	6.50	7.25	3.10	1.00	3.90

TABLE VI.—MONTHLY PRICES OF OLD MATERIAL, COAL, AND COKE, 1889 TO 1899—Concluded.

Year and month.	Old iron rails at Chicago, per 2,240 lbs.	Scrap, No.1, mill, at Chicago, per 2,000 lbs.	Scrap, cast, at Chicago, per 2,000 lbs.	Coal, Youghiogheny, at Chicago, per 2,000 lbs.	Coke, Connellsville, f. o. b. at ovens, per 2,000 lbs.	Coke, Pennsylvania, at Chicago, per 2,000 lbs.
1894.						
July	$10.75	$6.50	$7.25	$3.10	$1.00	$3.90
August	10.50	6.50	7.25	3.10	2.00	3.90
September	11.00	7.00	7.25	3.10	1.40	3.90
October	11.00	7.00	7.50	3.10	1.00	3.90
November	10.75	7.00	7.50	3.10	1.01	3.90
December	10.75	7.00	7.50	3.10	1.00	3.90
1895.						
January	10.25	6.50	7.50	2.90	1.00	3.90
February	10.50	6.50	7.00	2.90	1.00	3.90
March	11.00	6.50	7.00	2.90	1.00	3.90
April	11.25	6.50	7.00	2.90	1.35	4.15
May	12.00	7.00	7.00	2.90	1.35	4.15
June	13.50	7.50	7.75	2.90	1.35	4.15
July	15.00	8.00	8.00	2.90	1.35	4.15
August	16.00	9.00	9.25	2.90	1.35	4.15
September	18.50	10.00	9.50	3.00	1.35	4.15
October	18.50	9.00	9.50	3.00	1.60	4.65
November	17.00	8.00	10.50	3.00	1.60	4.85
December	16.00	7.50	10.50	3.00	1.60	4.85
1896.						
January	14.50	6.50	9.50	2.90	1.87½	5.15
February	14.00	7.00	9.25	2.90	1.87½	5.15
March	14.00	7.50	9.25	2.90	1.87½	5.15
April	15.00	7.75	9.50	2.90	1.87½	4.80
May	13.00	7.50	9.25	2.90	1.87½	4.80
June	13.00	7.00	8.50	2.80	1.87½	4.80
July	13.25	6.75	8.25	2.78	1.87½	4.55
August	12.00	6.50	7.50	2.90	1.87½	4.55
September	11.25	6.00	7.00	2.90	1.87½	4.55
October	13.00	6.50	7.50	2.75	1.87½	4.55
November	14.50	7.50	8.25	2.75	1.87½	4.55
December	14.00	7.50	8.00	2.75	1.87½	4.55
1897.						
January	12.00	7.00	7.00	2.70	1.87½	4.55
February	13.00	7.00	7.00	2.70	1.87½	4.55
March	11.75	7.00	7.25	2.70	1.62½	4.55
April	11.50	6.75	7.50	2.70	1.55	4.55
May	11.00	6.00	7.00	2.70	1.40	4.55
June	10.50	5.50	7.00	2.70	1.50	4.55
July	11.00	5.75	7.25	.....	1.50	4.55
August	11.00	5.75	7.25	.....	1.50	4.55
September	12.00	6.50	7.25	.....	1.45	4.55
October	12.25	7.00	7.50	2.70	1.62½	4.55
November	12.00	6.50	7.50	2.70	1.75	4.55
December	12.00	6.50	7.50	2.70	1.75	4.55
1898.						
January	12.25	6.50	7.50	2.75	1.75	4.55
February	12.25	6.75	8.25	2.75	1.75	4.55
March	12.00	7.00	8.00	2.75	1.75	4.40
April	12.00	7.00	8.50	2.75	1.75	4.40
May	12.25	6.50	8.75	2.75	1.75	4.40
June	12.37½	6.50	8.00	2.75	1.75	4.40
July	12.50	6.50	7.75	2.75	1.75	4.40
August	12.50	6.50	8.00	2.75	1.75	4.40
September	12.62½	6.62½	8.25	2.75	1.75	4.40
October	12.75	6.75	8.25	2.75	1.50	4.50
November	12.75	6.25	8.25	2.75	1.50	4.40
December	12.50	6.75	8.25	2.75	1.60	4.40
1899.						
January	13.00	7.00	8.25	2.45	1.60	4.55
February	14.00	7.75	9.00	2.45	1.60	4.55
March	16.25	8.75	11.50	2.45	1.75	4.55
April	18.00	9.00	12.00	2.45	1.75	4.55
May	18.00	9.00	11.50	2.45	2.05	4.55
June	18.00	8.75	11.50	2.45	2.20	4.55
July	18.75	8.50	12.00	2.45	2.12½	4.75
August	21.00	9.00	12.50	2.50	2.50	4.75
September	27.50	13.00	15.00	2.50	2.62½	5.25
October	30.00	14.50	16.00	2.75	2.75	5.50
November	30.00	13.50	15.50	3.00	2.87½	5.50
December	27.00	13.00	14.00	3.00	2.87½	5.75

TABLE VII.—RELATIVE MONTHLY PRICES OF OLD MATERIAL, COAL, AND COKE, 1889 TO 1899.

[The combinations controlling the most of these products were organized in 1898 and the first half of 1899.]

Year and month.	Old iron rails at Chicago.	Scrap, No.1, mill, at Chicago.	Scrap, cast, at Chicago.	Coal, Youghiogheny, at Chicago.	Coke, Connellsville, f. o. b. at ovens.	Coke, Pennsylvania, at Chicago.
1889.						
January	100.0	100.0	100.0	100.0	100.0	100.0
February	95.3	100.0	98.1	100.0	100.0	100.0
March	97.7	100.0	96.3	97.0	100.0	100.0
April	93.0	96.4	92.6	97.0	92.0	100.0
May	90.7	92.9	85.2	95.4	88.0	97.6
June	93.0	92.9	81.5	95.4	88.0	94.1
July	100.0	100.0	85.2	95.4	84.0	92.9
August	104.7	101.8	88.9	95.4	88.0	92.9
September	114.0	103.6	88.9	95.4	110.0	103.5
October	117.4	114.3	96.3	95.4	120.0	108.5
November	120.9	121.4	100.0	98.5	140.0	107.1
December	122.1	125.0	107.4	98.5	140.0	112.9
1890.						
January	120.9	117.9	103.7	98.5	140.0	116.5
February	116.3	117.9	100.0	98.5	140.0	125.9
March	110.5	110.7	100.0	98.5	172.0	122.4
April	107.0	103.6	96.3	98.5	172.0	122.4
May	104.7	100.0	96.3	93.9	172.0	122.4
June	116.3	110.7	96.3	100.0	172.0	122.4
July	120.9	114.3	96.3	100.0	172.0	122.4
August	123.3	117.9	103.7	100.0	172.0	122.4
September	125.6	117.9	100.0	102.1	172.0	122.4
October	123.3	114.3	100.0	102.1	172.0	122.4
November	118.6	110.7	100.0	102.1	172.0	122.4
December	109.3	103.6	96.3	103.7	172.0	122.4
1891.						
January	107.0	100.0	92.6	100.6	152.0	118.8
February	107.0	98.2	92.6	100.6	152.0	118.8
March	108.1	98.2	90.7	100.6	152.0	118.8
April	105.8	96.4	88.9	100.6	152.0	118.8
May	105.8	96.4	88.9	100.6	152.0	118.8
June	105.8	98.2	90.7	99.1	152.0	118.8
July	108.1	101.8	88.9	99.1	152.0	118.8
August	107.0	103.6	94.4	99.1	152.0	118.8
September	107.0	101.8	90.7	103.7	148.0	118.8
October	103.5	98.2	90.7	103.7	148.0	118.8
November	102.3	94.6	88.9	114.3	144.0	118.8
December	101.2	89.3	88.9	114.3	144.0	118.8
1892.						
January	102.3	89.3	88.9	103.7	152.0	118.8
February	101.2	89.3	92.6	103.7	152.0	118.8
March	93.0	82.1	88.9	102.1	152.0	118.8
April	90.7	78.6	85.2	102.1	152.0	118.8
May	86.0	75.0	85.2	99.1	144.0	118.8
June	84.9	71.4	85.2	99.1	144.0	118.8
July	83.7	78.6	85.2	99.1	140.0	118.8
August	83.7	78.6	85.2	99.1	140.0	118.8
September	82.6	78.6	85.2	102.1	140.0	118.8
October	84.9	78.6	85.2	102.1	140.0	118.8
November	86.0	78.6	85.2	105.2	140.0	118.8
December	87.2	78.6	85.2	106.7	140.0	118.8
1893.						
January	86.0	76.8	83.3	106.7	152.0	118.8
February	86.0	76.8	83.3	106.7	152.0	118.8
March	84.9	76.8	83.3	106.7	152.0	118.8
April	82.6	75.0	83.3	104.0	136.0	118.8
May	81.4	71.4	81.5	102.1	128.0	118.8
June	79.1	64.3	75.9	102.1	120.0	118.8
July	74.4	64.3	74.1	99.1	116.0	118.8
August	69.8	60.7	66.7	99.1	100.0	118.8
September	67.4	57.1	59.3	99.1	96.0	105.9
October	67.4	57.1	63.0	99.1	96.0	105.9
November	67.4	57.1	70.4	99.1	88.0	98.8
December	65.1	57.1	70.4	99.1	84.0	98.8
1894.						
January	60.5	58.9	64.8	99.1	78.0	98.8
February	55.8	48.2	57.4	99.1	76.0	98.8
March	48.8	48.2	55.6	97.6	80.0	98.8
April	46.5	46.4	55.6	96.0	73.6	91.8
May	46.5	46.4	53.7	94.5	73.6	91.8
June	45.3	46.4	53.7	94.5	80.0	91.8
July	50.0	46.4	58.7	94.5	80.0	91.8
August	48.8	46.4	53.7	94.5	160.0	91.8
September	51.2	50.0	53.7	94.5	112.0	91.8
October	51.2	50.0	55.6	94.5	80.0	91.8
November	50.0	50.0	55.6	94.5	80.8	91.8
December	50.0	50.0	55.6	94.5	85.0	91.8

TABLE VII.—RELATIVE MONTHLY PRICES OF OLD MATERIAL, COAL, AND COKE, 1889 TO 1899—Concluded.

Year and month.	Old iron rails at Chicago.	Scrap, No. 1, mill, at Chicago.	Scrap, cast, at Chicago.	Coal, Youghiogheny, at Chicago.	Coke, Connellsville, f. o. b. at ovens.	Coke, Pennsylvania, at Chicago.
1895.						
January	47.7	46.4	55.6	88.4	80.0	91.8
February	48.8	46.4	51.9	88.4	80.0	91.8
March	51.2	46.4	51.9	88.4	80.0	91.8
April	52.3	46.4	51.9	88.4	108.0	97.6
May	55.8	50.0	51.9	88.4	108.0	97.6
June	62.8	53.6	57.4	88.4	108.0	97.6
July	69.8	57.1	59.3	88.4	108.0	97.6
August	74.4	64.3	68.5	88.4	108.0	97.6
September	86.0	71.4	70.4	91.5	108.0	97.6
October	86.0	64.3	70.4	91.5	128.0	109.4
November	79.1	57.1	77.8	91.5	128.0	114.1
December	74.4	53.6	77.8	91.5	128.0	114.1
1896.						
January	67.4	46.4	70.4	88.4	150.0	121.2
February	65.1	50.0	68.5	88.4	150.0	121.2
March	65.1	53.6	68.5	88.4	150.0	121.2
April	69.8	55.4	70.4	88.4	150.0	112.9
May	60.5	53.6	68.5	88.4	150.0	112.9
June	60.5	50.0	63.0	85.4	150.0	112.9
July	61.6	48.2	61.1	84.8	150.0	107.1
August	55.8	46.4	55.6	88.4	150.0	107.1
September	52.3	42.9	51.9	88.4	150.0	107.1
October	60.5	46.4	55.6	83.8	150.0	107.1
November	67.4	53.6	61.1	83.8	150.0	107.1
December	65.1	53.6	59.3	83.8	150.0	107.1
1897.						
January	55.8	50.0	51.9	82.3	150.0	107.1
February	60.5	50.0	51.9	82.3	150.0	107.1
March	54.7	50.0	53.7	82.3	130.0	107.1
April	53.5	48.2	55.6	82.3	124.0	107.1
May	51.2	42.9	51.9	82.3	112.0	107.1
June	48.8	39.3	51.9	82.3	120.0	107.1
July	51.2	41.1	53.7	.....	120.0	107.1
August	51.2	41.1	53.7	.....	120.0	107.1
September	55.8	46.4	53.7	.....	116.0	107.1
October	57.0	50.0	55.6	82.3	130.0	107.1
November	55.8	46.4	55.6	82.3	140.0	107.1
December	55.8	46.4	55.6	82.3	140.0	107.1
1898.						
January	57.0	46.4	55.6	83.8	140.0	107.1
February	57.0	48.2	61.1	83.8	140.0	107.1
March	55.8	50.0	59.3	83.8	140.0	103.5
April	55.8	50.0	63.0	83.8	140.0	103.5
May	57.0	46.4	64.8	83.8	140.0	103.5
June	57.6	46.4	59.3	83.8	140.0	103.5
July	58.1	46.4	57.4	83.8	140.0	103.5
August	58.1	46.4	59.3	83.8	140.0	103.5
September	58.7	47.3	61.1	83.8	140.0	103.5
October	59.3	48.2	61.1	83.8	120.0	105.9
November	59.3	44.6	61.1	83.8	120.0	103.5
December	58.1	48.2	61.1	83.8	128.0	103.5
1899.						
January	60.5	50.0	61.1	74.7	128.0	107.1
February	65.1	55.4	66.7	74.7	128.0	107.1
March	75.6	62.5	85.2	74.7	140.0	107.1
April	83.7	64.3	88.9	74.7	140.0	107.1
May	83.7	64.3	85.2	74.7	164.0	107.1
June	83.7	62.5	85.2	74.7	176.0	107.1
July	87.2	60.7	88.9	74.7	170.0	111.8
August	97.7	64.3	92.6	76.2	200.0	111.8
September	127.9	92.9	111.1	76.2	210.0	123.5
October	139.5	103.6	118.5	83.8	220.0	129.4
November	139.5	96.4	114.8	91.5	230.0	129.4
December	125.6	92.9	103.7	91.5	230.0	135.3

TABLE VIII.—MONTHLY PRICES OF SMOOTH WIRE, SEPTEMBER, 1895 TO DECEMBER, 1899.

[The prices shown are from the Report of the Industrial Commission on Trusts and Industrial Combinations, p. 55. The combination controlling from 75 to 95 per cent of this product was organized in January, 1899.]

Year and month.	Smooth wire, per 100 pounds.	Year and month.	Smooth wire, per 100 pounds.	Year and month.	Smooth wire, per 100 pounds.
1895.		1897.		1898.	
September	$1.75	February	$1.15	September	$1.15
October	1.71	March	1.16	October	1.15
November	1.48	April	1.15	November	1.15
December	1.32	May	1.12½	December	1.12
1896.		June	1.15	1899.	
January	1.26	July	1.10	January	1.29
February	1.25	August	1.10	February	1.46
March	1.25	September	1.14	March	1.79
April	1.29	October	1.20	April	1.92
May	1.32	November	1.17½	May	1.95
June	1.26	December	1.17	June	2.15
July	1.24	1898.		July	2.37
August	1.25	January	1.18	August	2.50
September	1.20	February	1.18	September	2.76
October	1.17	March	1.20	October	2.95
November	1.18	April	1.18	November	2.95
December	1.28	May	1.15	December	2.87
1897.		June	1.15		
January	1.21	July	1.15		
		August	1.15		

TABLE IX.—MONTHLY PRICES OF STARCH AND GLUCOSE AND THE MATERIAL ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899.

[The prices shown are those received and paid by the combination itself. The combination controlling 90 to 95 per cent of these products was organized in August, 1897.]

Year and month.	Products.			Material—corn, per bush.	Year and month.	Products.			Material—corn, per bush.
	Pearl starch, per 100 lbs.	Crystal glucose, per 100 lbs.	Mixing and jelly glucose, per 100 lbs.			Pearl starch, per 100 lbs.	Crystal glucose, per 100 lbs.	Mixing and jelly glucose, per 100 lbs.	
1888.					1894.				
July	$2.34	$2.83	$2.18	$0.4356	Apr.	$1.45	$1.28	$1.23	$0.3852
Aug	2.32	2.75	1.95	.4311	May	1.58	1.47	1.25	.3874
Sept.	2.22	2.74	1.95	.4324	June	1.60	1.47	1.35	.4071
Oct.	2.18	2.78	1.95	.4172	July	1.65	1.64	1.44	.4267
Nov	2.15	2.65	1.80	.3762	Aug	1.83	1.78	1.68	.5258
Dec	2.16	2.57	1.55	.3197	Sept	2.05	1.75	1.68	.5538
1889.					Oct	1.99	1.67	1.60	.5112
Jan	2.11	2.20	1.50	.3037	Nov	1.98	1.58	1.48	.4710
Feb	2.06	2.14	1.50	.2939	Dec.	1.91	1.45	1.32	.4116
Mar	2.03	2.13	1.65	.3085	1895.				
Apr	2.08	2.07	1.65	.3340	Jan	1.69	1.32	1.25	.4141
May	2.05	2.14	1.88	.3368	Feb.	1.65	1.33	1.32	.4096
June	2.00	2.17	1.88	.3327	Mar	1.71	1.40	1.42	.4313
July	1.96	2.15	1.62	.3502	Apr.	1.78	1.44	1.45	.4559
Aug	1.93	2.16	1.95	.3510	May	2.08	1.69	1.65	.5042
Sept.	1.88	2.24	1.95	.3297	June	1.92	1.61	1.64	.5048
Oct.	1.90	2.25	2.10	.3138	July	1.70	1.37	1.36	.4565
Nov	1.93	2.24	2.10	.3169	Aug	1.58	1.25	1.20	.4032
Dec	1.84	2.24	2.10	.2889	Sept	1.55	1.21	1.15	.3427
1890.					Oct	1.53	1.25	1.22	.3093
Jan	1.81	2.40	2.10	.2650	Nov	1.54	1.17	1.12	.2812
Feb	1.80	2.42	1.95	.2570	Dec.	1.43	1.08	1.00	.2667
Mar	1.78	2.41	1.95	.2670	1896.				
Apr	(a)	2.40	1.95	.3032	Jan	1.41	1.09	1.02	.2627
May	(a)	2.44	2.00	.3196	Feb.	1.45	1.08	1.00	.2709
June	(a)	2.31	2.00	.3154	Mar	1.40	1.04	.99	.2811
July	(a)	2.46	2.00	.3447	Apr.	1.37	1.06	.97½	.2950
Aug	(a)	2.56	2.20	.4692	May	1.37	1.00	.95	.2867
Sept.	1.86	2.62	2.50	.4676	June	1.17	.94	.90	.2708
Oct.	1.82	2.63	2.50	.4873	July	1.15	.96	.85	.2650
Nov	1.80	2.58	2.12	.5134	Aug	1.14	.91	.85	.2253
Dec	1.76	2.27	1.95	.5002	Sept	1.15	.90	.87½	.2143
1891.					Oct	1.16	1.08	1.00	.2339
Jan	2.19	2.18	1.95	.4954	Nov	1.13	.96½	.93	.2254
Feb	2.26	1.70	1.85	.5086	Dec.	.94	.82	.80	.2049
Mar	2.29	2.19	2.15	.5932	1897.				
Apr	2.36	2.43	2.40	.6920	Jan	.84	.77	.72	.1978
May	2.42	2.30	2.20	.6348	Feb.	.79	.74	.70	.1851
June	2.52	2.21	2.05	.5723	Mar	.83	.75	.72	.1963
July	2.46	2.22	2.05	.5758	Apr.	.85	.78	.72	.2261
Aug	2.58	2.31	2.15	.6127	May	.84	.80	.77	.2348
Sept.	2.26	2.20	2.05	.5747	June	.96	.87	.84	.2194
Oct.	2.21	2.07	1.87	.5177	July	1.07	1.04	1.00	.2577
Nov	2.02	1.95	1.80	.4588	Aug	1.41	1.75	1.45	.2959
Dec	2.02	1.96	1.80	.4062	Sept	1.41	1.75	1.55	.2959
1892.					Oct	1.19	1.75	1.15	.2675
Jan	2.06	1.80	1.60	.3732	Nov	1.06¼	1.50	1.25	.2661
Feb	2.00	1.78	1.70	.3692	Dec.	1.04¼	1.52½	1.30	.2657
Mar	1.89	1.80	1.75	.3679	1898.				
Apr	1.74	1.70	1.50	.3813	Jan	1.01¼	1.55	1.30	.2678
May	1.76	1.71	1.60	.4255	Feb.	1.03	1.60	1.30	.2797
June	1.82	1.78	1.60	.3972	Mar	1.18	1.50	1.15	.2906
July	1.82	1.75	1.55	.4032	Apr.	1.19	1.45	1.15	.2983
Aug	1.91	1.83	1.70	.4529	May	1.27	1.45	1.15	.3440
Sept.	1.97	2.08	2.00	.4565	June	1.36	1.22	1.08	.3215
Oct.	1.80	2.05	1.65	.4248	July	1.22	1.17½	1.02½	.3222
Nov	1.68	1.93	1.60	.4173	Aug	1.25	1.20	1.07	.3374
Dec	1.65	1.82	1.48	.4024	Sept	1.38	1.22	1.08½	.3105
1893.					Oct	1.25	1.25	1.11	.3049
Jan	1.70	1.70	1.50	.3941	Nov	1.26	1.28½	1.13	.3278
Feb	1.70	1.74	1.70	.4023	Dec.	1.16	1.28	1.15	.3262
Mar	1.76	1.74	1.60	.3958	1899.				
Apr	1.71	1.69	1.42	.3970	Jan	1.22	1.23	1.08	.3335
May	1.72	1.73	1.47	.4122	Feb.	1.22½	1.20	1.09	.3384
June	1.70	1.56	1.35	.3566	Mar	1.28	1.19	1.12	.3241
July	1.66	1.53	1.25	.3768	Apr.	1.23½	1.18	1.12	.3362
Aug	1.64	1.46	1.22	.3814	May	1.23½	1.19½	1.13	.3272
Sept.	1.63	1.57	1.60	.3952	June	1.25	1.29	1.26	.3106
Oct.	1.52	1.52	1.35	.3907	July	1.31	1.28	1.20½	.3242
Nov	1.51	1.48	1.30	.3739	Aug	1.29	1.27	1.20	.3150
Dec	1.48	1.31	1.17	.3525	Sept	1.19	1.23	1.15½	.3144
1894.					Oct	1.28	1.25	1.18	.3197
Jan	1.43	1.30	1.12	.3530	Nov	1.36	1.24	1.15	.3162
Feb	1.41	1.20	1.10	.3454	Dec.	1.18	1.16	1.04	.3090
Mar	1.41	1.33	1.20	.3532					

a Not reported.

TABLE X.—RELATIVE MONTHLY PRICES OF STARCH AND GLUCOSE AND THE MATERIAL ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899.

[The combination controlling 90 to 95 per cent of these products was organized in August, 1897.]

Year and month.	Products.			Material —corn.	Year and month.	Products.			Material —corn.
	Pearl starch.	Crystal glucose.	Mixing and jelly glucose.			Pearl starch.	Crystal glucose.	Mixing and jelly glucose.	
1888.					1894.				
July	100.0	100.0	100.0	100.0	Apr.	62.0	45.2	56.4	88.4
Aug.	99.1	97.2	89.4	99.0	May	67.5	51.9	57.3	88.9
Sept.	94.9	96.8	89.4	99.3	June	68.4	51.9	61.9	93.5
Oct.	93.2	98.2	89.4	95.8	July	70.5	58.0	66.1	98.0
Nov.	91.9	93.6	82.6	86.4	Aug.	78.2	62.9	77.1	120.7
Dec.	92.3	90.8	71.1	73.4	Sept.	87.6	61.8	77.1	127.1
1889.					Oct.	85.0	59.0	73.4	117.4
Jan.	90.2	77.7	68.8	69.7	Nov.	84.6	55.8	67.9	108.1
Feb.	88.0	75.6	68.8	67.5	Dec.	81.6	51.2	60.6	99.1
Mar.	86.8	75.3	75.7	70.8	1895.				
Apr.	88.9	73.1	75.7	76.7	Jan.	72.2	46.6	57.3	95.1
May.	87.6	75.6	86.2	77.3	Feb.	70.5	47.0	60.6	94.0
June	85.5	76.7	86.2	76.4	Mar	73.1	49.5	65.1	99.0
July	83.8	76.0	74.3	80.4	Apr.	76.1	50.9	66.5	104.7
Aug.	82.5	76.3	89.4	80.6	May	88.9	59.7	75.7	115.7
Sept.	80.3	79.2	89.4	75.7	June	82.1	56.9	75.2	115.9
Oct.	81.2	79.5	96.3	72.0	July	72.6	48.4	62.4	104.8
Nov.	82.5	79.2	96.3	72.8	Aug.	67.5	44.2	55.0	92.6
Dec.	78.6	79.2	96.3	66.3	Sept.	66.2	42.8	52.8	78.7
1890.					Oct.	65.4	44.2	56.0	71.0
Jan.	77.4	84.8	96.3	60.8	Nov.	65.8	41.3	51.4	64.6
Feb.	76.9	85.5	89.4	59.0	Dec.	61.1	38.2	45.9	61.2
Mar.	76.1	85.2	89.4	61.3	1896.				
Apr.	(a)	84.8	89.4	69.6	Jan.	60.3	38.5	46.8	60.3
May.	(a)	86.2	91.7	73.4	Feb.	62.0	38.2	45.9	62.2
June	(a)	81.6	91.7	72.4	Mar	59.8	36.7	45.4	64.5
July	(a)	86.9	91.7	79.1	Apr.	58.5	37.5	44.7	67.7
Aug.	(a)	90.5	100.9	107.7	May	58.5	35.3	43.6	65.8
Sept.	79.5	92.6	114.7	107.3	June	50.0	33.2	41.3	62.2
Oct.	77.8	92.9	114.7	111.9	July	49.1	33.9	39.0	60.8
Nov.	76.9	91.2	97.2	117.9	Aug	48.7	32.2	39.0	51.7
Dec.	75.2	80.2	89.4	114.8	Sept	49.1	31.8	40.1	49.2
1891.					Oct.	49.6	38.2	45.9	58.7
Jan.	93.6	77.0	89.4	113.7	Nov	48.3	34.1	42.7	51.7
Feb.	96.6	60.1	84.9	116.8	Dec.	40.2	29.0	36.7	47.0
Mar.	97.9	77.4	96.6	136.2	1897.				
Apr.	100.9	85.9	110.1	158.9	Jan.	35.9	27.2	33.0	45.4
May.	103.4	81.3	100.9	145.7	Feb.	33.8	26.1	32.1	42.5
June	107.7	78.1	94.0	131.4	Mar	35.5	26.5	33.0	45.5
July	105.1	78.4	94.0	132.2	Apr.	36.3	27.6	33.0	51.9
Aug.	110.3	81.6	98.6	140.7	May	35.9	28.3	35.3	58.9
Sept.	96.6	77.7	94.0	131.9	June	41.0	30.7	38.5	50.4
Oct.	94.4	73.1	85.8	118.8	July	45.7	36.7	45.9	59.2
Nov.	86.3	68.9	82.6	105.3	Aug	60.3	61.8	66.5	67.9
Dec.	86.3	69.3	82.6	93.3	Sept	60.3	61.8	71.1	67.9
1892.					Oct.	50.9	61.8	52.8	61.4
Jan.	88.0	63.6	73.4	85.7	Nov	45.1	53.0	57.3	61.1
Feb.	85.5	62.9	78.0	84.8	Dec.	44.7	53.9	59.6	61.0
Mar.	80.8	63.6	80.3	84.5	1898.				
Apr.	74.4	60.1	68.8	87.5	Jan.	43.4	54.8	59.6	61.5
May.	75.2	60.4	73.4	97.7	Feb.	44.0	56.5	59.6	64.2
June	77.8	62.9	73.4	91.2	Mar	50.4	53.0	52.8	66.7
July	77.8	61.8	71.1	92.6	Apr	50.9	51.2	52.8	68.5
Aug.	81.6	64.7	78.0	104.0	May	54.3	51.2	52.8	79.0
Sept.	84.2	73.5	91.7	104.8	June	58.1	43.1	49.5	78.8
Oct.	76.9	72.4	75.7	97.5	July	52.1	41.5	47.0	74.0
Nov.	71.8	68.2	73.4	95.8	Aug	53.4	42.4	49.1	77.5
Dec.	70.5	64.3	67.9	92.4	Sept	59.0	43.1	49.8	71.3
1893.					Oct.	53.4	44.2	50.9	70.0
Jan.	72.6	60.1	68.8	90.5	Nov	53.8	45.4	51.8	75.3
Feb.	72.6	61.5	78.0	92.4	Dec.	49.6	45.2	52.8	74.9
Mar.	75.2	61.5	73.4	90.9	1899.				
Apr.	73.1	59.7	65.1	91.1	Jan.	52.1	43.5	49.5	76.6
May.	73.5	61.1	67.4	94.6	Feb.	52.4	42.4	50.0	77.7
June	72.6	55.1	61.9	81.9	Mar	54.7	42.0	51.4	74.4
July	70.9	54.1	57.3	86.5	Apr	52.8	41.7	51.4	77.2
Aug.	70.1	51.6	56.0	87.6	May	52.8	42.2	51.8	75.1
Sept.	69.7	55.5	73.4	90.7	June	53.4	45.6	57.8	71.3
Oct.	65.0	53.7	61.9	89.7	July	56.0	45.2	55.3	74.4
Nov.	64.5	52.3	59.6	85.8	Aug	55.1	44.9	55.0	72.3
Dec.	63.2	46.3	53.7	80.9	Sept	50.9	43.5	53.0	72.2
1894.					Oct.	54.7	44.2	54.1	73.4
Jan.	61.1	45.9	51.4	81.0	Nov	58.1	43.8	52.8	72.6
Feb.	60.3	42.4	50.5	79.3	Dec.	50.4	41.0	47.7	70.9
Mar.	60.3	47.0	55.0	81.1					

a Not reported.

THE YUKON AND NOME GOLD REGIONS.

BY SAM. C. DUNHAM.

THE YUKON AND ITS TRIBUTARIES.

The expenses, difficulties, and hardships of the summer journey fro the coast to the Klondike are things of the past. The White Pass an Yukon Railroad was completed early in July, 1899, from Skagway t the head of Lake Bennett, a distance of about 40 miles. From Be nett City to Dawson the journey is now made in four days in comm dious and comfortable steamers, at a cost of less than $100, includin berth and meals. The up-trip from Dawson to Bennett City occupie from six to ten days, according to stage of water. As a consequenc of the great improvements in transportation on the upper Yukon an the lakes, the St. Michael route is now but little used for passenge traffic to and from the States. During the summer of 1899 about 8,00 people left Dawson, half of whom returned to the coast by the uppe river route. Of the other half, about 2,500 went to Nome, and th remainder entered the Forty Mile District. Not to exceed 1,000 peo ple arrived in Dawson from the outside world during the season, an not more than 50 of these went in by the St. Michael route. The new of the gold strike at Nome received no credence at Dawson until abou September 1, and it was then too late, because of a lack of transporta tion facilities, for a general movement to the new gold fields. Th community is prepared for a great stampede, and it is probable tha at least eight or ten thousand people will leave Dawson for Nome a rapidly as they can secure passage down the river this year. Th sporting classes are making preparations to leave in a body, on accoun of the restrictions placed on their enterprises at Dawson.

The lower river steamboats continue to handle the bulk of the freight, and about 10,000 tons were taken to Dawson by way of St. Michael during the season, while 6,000 tons were brought in by the Skagway route.

The greatest source of surprise to one returning to Dawson after a year's absence is the remarkable growth of the town. There are no traces of the two or three disastrous fires which occurred during the winter. Hundreds of fine buildings have been erected on every hand, and the hills back of the town are covered with substantial log and

frame dwellings. The business portion of the town, which extends for a mile or more along the river front, is solidly built up for three or four blocks back from the river. Third avenue, which in 1898 contained only a few scattered buildings, is becoming the retail or shopping street.

According to the census taken by the Northwest Mounted Police, the population of the Yukon District in the spring of 1899 was 35,000. Dawson had a population of 15,000, and about the same number of people were located on the Klondike and Indian rivers and their tributaries, while 5,000 were scattered on outlying creeks. There were 2,000 women in the district, of whom 500 were prostitutes. Fully 10,000 of those who spent the winter in town were idle, and a large proportion of this vast number were destitute, depending upon private charity for subsistence. There was no organized charity, but there was scarcely an entertainment of any kind during the winter that was not given primarily for the relief of the destitute. Many women were without means and became objects of charity. Nearly all the women who come to the Klondike in search of employment are of the class who perform domestic service in the States. There is little demand for this kind of service in town, and owing to the low moral tone of the community a woman who goes to an isolated cabin on a creek to cook and keep house for a miner must bear the stigma of being his mistress; consequently there are no opportunities in the line of domestic service for respectable women. A number of women have established roadhouses on the creeks, and all appear to be prosperous, being well patronized by the miners in the vicinity and by the traveling public. No demand for saleswomen exists in Dawson, and the field for stenographers and typewriter operators is limited.

While there have been no marked advances in the prices of real estate, the market is firm, and is likely to remain so for some years, as the opening up of the rich bench and hillside diggings and other new developments on old creeks insure to the camp a long life.

As a result of the adoption of a good drainage system, the sanitary condition of Dawson is greatly improved, and it is now as healthy a town as can be found anywhere.

The municipal government is a model one in every way, and there is almost a total absence of petty crimes, while but one murder was committed during the winter.

The town has a well-organized volunteer fire department, equipped with apparatus which cost $30,000.

The Good Samaritan Hospital, a Protestant institution recently established, is doing good work, and can accommodate about the same number of patients as the old hospital described in a former report. The Government contributes $15,000 per annum to the support of these institutions.

There are four churches, which hold regular services, that are w attended.

There are about fifty saloons in the town, which pay to the Gover ment an annual license of $2,000 each. They are required to clo at 12 o'clock (midnight) Saturday and are not allowed to reopen un 6 o'clock Monday morning. This rule applies to all classes of bu ness, except in cases of necessity, when permits are issued. With tv or three exceptions, the saloons have reduced the price of drinks to ! cents, but the wages of barkeepers, faro dealers, etc., remain at tl old figures of $1.50 and $2 per hour. A marked improvement in tl morals of the town is apparent, and, compared with the increase (population, far less money is spent in saloons than formerly.

About 15,000 men were employed in mining during the winte probably one-half of them working for wages, and the others bein engaged on lays, working individual claims, and prospecting. As rule the lay men were unsuccessful, which fact can be attributed largel to lack of experience, most of them having no practical knowledge c mining.

There has been a large reduction of wages in the mines, the prevail ing rate now being 70 cents per hour without board, or $5 per da with board, for the mining season. A few claim-owners continue t pay the old rate of $1.50 per hour for skilled miners.

Mechanical labor, such as woodworking, blacksmithing, etc., is pai for at the old rate of $1.50 per hour, mechanics furnishing their owi tools. Many carpenters have come into the country without tools most of whom could find profitable employment but for their negli gence in this respect.

There has been a material reduction in the cost of living in the Klondike during the past season. Flour, which sold in 1898 for $16 per hundred, now sells for $10, and other commodities have undergone a like reduction in price. Many small traders have established themselves in town and on the creeks, and the retail prices fixed by the commercial companies no longer control the market. The old companies are becoming wholesalers, and the small traders are rapidly securing control of the retail trade.

About 1,500 head of beef cattle were brought in during the summer, as well as a large supply of fresh mutton and pork. The ruling prices were 50 cents per pound for beef and 75 cents per pound for mutton and pork.

There are 50 or 60 restaurants, and the prices of meals range from 50 cents to $1.50. The better class of restaurants supply their regular patrons with meals for $15 per week. Good cooks receive $10 per day, and waiters are paid from $25 to $40 per week with board. Notwithstanding the liberal wages paid, there are many idle cooks and waiters walking the streets in search of employment.

The output of the Klondike gold fields for the season of 1897–98 was estimated in Bulletin No. 19 of the Department of Labor at $12,000,000. This figure is accepted by the bankers, commercial companies, and Government officials at Dawson as correct, although the output is placed as high as $15,000,000 by some other authorities. The output of gold for the past season (1898–99), according to data obtained from the same sources as for the preceding year, was $17,000,000, divided among the creeks as follows: Eldorado, $4,000,000; Bonanza, $3,000,000; Dominion, $4,000,000; Hunker, $1,500,000; Sulphur, $1,000,000; Gold Run, $1,000,000; Bear, $250,000; other creeks, $750,000; bench and hillside claims, $1,500,000.

The Government collected $700,000 in royalties. The exemption from the royalty tax has been raised from $2,500 to $5,000, and this is the only change that has been made during the year in the mining regulations. There is still widespread complaint against the exactions of the Government. It is estimated that the receipts of the gold commissioner's office, inclusive of royalties, will reach $1,700,000 for the year 1899. Less than $100,000 of this vast sum has been expended for the benefit of the community from which it was taken.

Eldorado Creek showed a production for the season of over $4,000,000, and thus maintained its position as the richest creek in the district. It has been demonstrated that the pay streak extends farther up the valley than was formerly supposed, and very rich ground has been found as far up as claim No 39. Several valuable claims are being developed in the thirties, 36 and 38 being exceptionally good. On the west side of the creek, opposite 30, good pay has been found in the benches, which are being worked profitably.

Bonanza Creek produced $3,000,000 during the season, about the same as the year before. On account of the royalty tax, no summer work was done on the upper portion of the creek. The creek claims on Bonanza, from 10 below Discovery to the mouth produced very little gold compared with the output of the preceding season. On account of the royalty tax and the scarcity of wood, the owners generally allowed their property to lie idle, simply doing representation work. It is conceded that this portion of the creek can not be worked profitably under present conditions, and it will lie idle until more economical methods can be introduced. While the creek claims in this vicinity have proved a disappointment, very rich pay has been found in the benches and on the hillsides on the south side of Bonanza from the mouth of Skookum to 25 below Discovery. There are some 50 claims in this string which were worked profitably, having produced about $500,000 during the season. From 25 to 70 below Discovery not much hillside mining has been done. At or near 70 below the pay streak has been found in the hillsides on the north side of the creek and traced over the hills to the Klondike, a distance of 2

miles. Some good hillside claims are located in this vicinity and the will undoubtedly be profitably worked under economical methods. The principal bench claims in the Bonanza Valley are near the mouth of Skookum. Gold Hill, which faces Bonanza between Eldorado and Skookum, has proved exceedingly rich. One claim there, which was bought for $50,000, produced $250,000 during the season. The aggregate output of the newly developed bench claims was about $1,500,000 and more than offset the reduced production of the creek claims on Bonanza. Hillside claims have a frontage of 100 feet and extend from the junction with the creek claim to the top of the hill, in some instances 300 or 400 feet. No definite ruling has ever been made as to the boundary between creek and hillside or bench claims, and this fact seriously affects values.

On Hunker Creek very rich pay has been found in the vicinity of Discovery, and good pay extends for 2 miles above and about the same distance below Discovery. Although the lower portion of the creek was not worked to any great extent, the output was $1,500,000 or about $500,000 more than the preceding season. It was worked down to 60 below Discovery, and that claim showed up better than any other below 20, producing about $100,000. With few exceptions the claims in that portion of the creek can not be worked profitably under present conditions. A number of bench claims have been opened up, but they have been worked in an indifferent manner and without satisfactory results. The pay in Hunker seems to cease at 20 above Discovery, and nothing has been found in the hillsides. No steps have been taken to work Lower Hunker, but a number of good bench claims have been found in that vicinity. The Klondike Government Concession Company, mentioned in a former report, is having a survey made for hydraulic operations, but no machinery has been placed on the ground, nor have any steps been taken to clear the land of timber, etc.

It has been clearly demonstrated that there is gold in paying quantities in Gold Bottom, a tributary of Hunker, for a distance of 3 miles from its mouth, but the ground is so deep, and the cost of operation so great, that the creek as a whole has shown no profit.

On Last Chance, a tributary of Hunker, good pay has been found for some 3 miles above the mouth. No. 27 proved very rich, two men having taken $10,000 from a small hole. Rich benches have been found on the lower part of the creek. Last Chance produced about $100,000 as the result of indifferent work.

With the exception of Gold Bottom and Last Chance no tributaries of Hunker have shown any value.

Dominion has fully justified expectations, having produced about $4,000,000. Nothing of value has been found higher up than 8 above Upper Discovery, but from that point to 10 below Lower Discovery,

a distance of 7 miles, much work was done, and generally speaking the creek proved rich. Good pay is reported as far down as 5 miles below Lower Discovery, but very little development work having been done there that portion of the creek is not yet proved. Opposite 30 and 31, below Lower Discovery, good pay has been found in the benches, and it is believed that the pay streak extends for a considerable distance down the valley, although it is as likely to be found in the benches as in the creek. The lower portion of Dominion is unworked. It resembles Lower Hunker, being wide and deep. There is a good supply of wood on the creek, and the ground is comparatively shallow, ranging from 12 to 20 feet in depth. Much of the creek can be worked in the summer by ground-sluicing and hydraulic methods. About a mile above Lower Discovery some very good bench claims have been opened up. Not much work has been done on them, but no doubt many rich claims will be developed in that vicinity.

The principal tributary of Dominion is Gold Run. Early in 1899 the value of claims on this creek ranged up to $25,000, that sum having been offered for one claim and refused. Considerable work was done on the creek, and it is probable that the output reached $1,000,000. No benches have been found on Gold Run.

Cariboo Gulch, a tributary of Dominion, produced some gold toward its head waters during the season of 1897–98, but the lower portion of the creek, although cross-cut and thoroughly prospected, showed no value; but quite late in the past season very rich bench claims were found at the lower end of the creek.

Eureka Creek, a tributary of Indian River, was worked profitably during the winter, about 200 men being employed. The creek, which forks 2 miles from the mouth, is located for a distance of 8 miles. No accurate data as to the output could be secured, but it is believed that the creek will be a good producer.

Sulphur Creek produced about $1,000,000. No. 26 above Discovery is considered very rich. The creek has been worked and gold found from 60 above to 60 below Discovery, a distance of about 12 miles, but it has been worked only in spots. The ground is very deep and the pay streak shallow in most portions of the creek. In the upper portion but little pay has been found in the creek, but rich pay has been found in the benches in that vicinity.

Quartz Creek has not produced anything of value, although good bench claims are reported to have been found along that stream.

None of the lower tributaries of Indian River have produced any gold or even shown encouraging prospects. This statement is true of all the streams entering the Yukon between Indian River and the Klondike, and all claims on these creeks have been abandoned.

Bear Creek has shown no value except near the mouth, all the upper part of the creek being barren. The output for the season was about $250,000.

None of the upper tributaries of the Klondike, including Too Much Gold and All Gold creeks, have proved of value, and it would seem that they are outside of the gold belt.

The only hydraulic work of any importance so far undertaken in the district is on Australian Creek, a tributary of Indian River. Preparations are being made for extensive operations there, and machinery, supplies, etc., are being carried in by pack train. The work is being conducted by an English-French syndicate, and about 40 men were employed during the past season.

The problem as to the practicability of dredging the beds of rivers is still unsolved, as no attempts have been made in this direction.

No quartz has been found in the Klondike district.

Steam thawing machines, which have been generally adopted in the winter diggings, have proved a great success. They effect a saving of 75 per cent in the cost of fuel, and make it possible to run shallow drifts, thus avoiding the expense of timbering, which was often necessary under the old method of burning.

The boom days of the Klondike are at an end, and the era of high wages and exorbitant prices is drawing to a close. The mining industry and all ordinary business and commercial enterprises are firmly established on a solid basis. It would be presumptuous to attempt to predict the length of time that will be required to exhaust the gold deposits that are known to exist in the immediate vicinity of Dawson. It may be stated, however, as the opinion of well-informed mining men, that at the present rate of production it will take ten years to work out the creeks and benches now proved to contain gold in paying quantities. It is reasonable to presume that during this period the district will support a population of fifteen or twenty thousand. The most important factor in this estimate, and one which will revolutionize placer mining throughout this northern region, is the existence of gold in the hillsides far above the beds of the creeks. On many of the richest creeks gold has been found to the hilltops on both sides of the creek, as well as in the creek bed itself. Moreover, it can be accepted as a general rule that where the pay streak is lost in the creek it can be found in the hillside. This rule holds good on every creek in which pay has been found in the Klondike district. The same condition is conclusively proved to exist wherever gold has been discovered in the Yukon region, notably at Forty Mile, Birch Creek, Rampart, and on the head waters of the Koyukuk, and the developments during the past summer at Nome indicate that the same formation exists there. In brief, it can be stated positively that gold is much more generally distributed throughout the Yukon Basin and northern Alaska than was formerly supposed.

The Forty Mile district showed satisfactory developments during the past season. A large number of people went down from Dawson

during the fall of 1898, and there were about 1,500 men at work in the district, mostly engaged in prospecting, and distributed as follows: Canyon Creek and Walker's Fork, 175; O'Brien Creek, 50; North Fork (including Wade Creek), 900; Chicken Creek and Mosquito Fork, 175; various other tributaries, 200. The town of Forty Mile contained a population of 250, of which 15 were women and 80 Indians.

Jack Wade Creek, a tributary of Walker's Fork, has proved rich. The creek, which lies in American territory, is about 15 miles long and is located for its entire length in 1,000-feet claims. Two claims, about 3 miles from the mouth of the creek, were sold last summer to Dawson operators for $35,000. On this property nuggets weighing from 1 to 3 ounces have been found. The pay streak is 150 feet wide. Average pans show from 25 to 60 cents, and as high as $11 to the pan has been found on bed rock. A large number of bench claims have been located. There is a good supply of water and an abundance of timber. Many miners entered the district during the past summer, and it is probable that the creek will show a population of 2,000 next year. Two or three of the tributaries of Jack Wade Creek prospect well at their mouths, but no development work has been done on them.

Chicken Creek, which was expected to show extensive diggings, has proved a disappointment. There are three or four rich claims on the creek, two of which were worked last season and produced about $150,000. These claims are near the head of the creek. The lower portion of the creek has not shown any valuable ground, but it is possible that the pay streak may be located in the benches.

Gold has been found in the benches on several streams in the district, and the indications are that many rich benches will be discovered.

The output of the district for the season of 1898–99 is estimated at $250,000.

Eagle City, in the American Creek mining district, has been made the headquarters of the military district of northern Alaska. A post known as Fort Egbert has been established, and six or eight large and comfortable log buildings have been erected. Maj. P. H. Ray, in command of the district of northern Alaska, is stationed at Fort Egbert, with a garrison of 100 men. The remainder of his command is distributed as follows: Circle City, 30 men; Rampart City, 20; Fort Gibbon (at the mouth of the Tanana), 200; St. Michael, 24; Nome, 20. Fort Gibbon is commanded by a captain, and the other posts are in command of lieutenants.

The American Creek district showed no new developments during the past season. In the fall of 1898 Eagle City had a population of 1,300, but by Christmas this number had dropped to 400, and on September 15, 1899, there were less than 40 people in the town. About 140 men passed the winter on the creeks, but they did very little effective work. It has been impossible to secure a statement of the

output, but it is probable that not more than $25,000 was taken ou American Creek is staked from 43 above to 40 below Discovery, a di tance of nearly 20 miles, and Discovery Gulch contains twenty claim

There are many claims on these creeks which could be profitabl worked, but they are largely held by nonresidents, who simply repr sent their properties and hold them for speculative purposes. Th condition exists in every mining camp on the American side, and wi continue until the Government amends its elastic mining laws in th interest of the working miner.

Star City, at the mouth of Seventy Mile River, has forty cabin but on September 15 was practically deserted, all but two or thre men having left for Nome. About 250 men spent the winter on Se enty Mile and its tributaries, but no results are reported. As state in a former report, there are large areas of good hydraulic ground i the district; but it must await the introduction of machinery an more economical methods.

Fourth of July Creek, which comes into the Yukon from the wes ward about 80 miles above Circle City, has proved a disappointment There was a stampede to this creek in the summer of 1898, and it wa thought to be rich; but no pay was found, and the district has bee abandoned.

A small village of ten or twelve cabins has sprung up at the mout of Charley River. Seventy-five men were prospecting on the strea and its tributaries during the winter, but nothing of value wa discovered.

Circle City on January 1, 1899, contained a white population o 625, including 85 soldiers, 32 women, and 7 children. The India population numbered 26. On September 15, 1899, nearly everybod had left for Nome, and the white population had dwindled to 55 including 20 soldiers and 13 women. The Birch Creek diggings las season showed the smallest output since the discovery of gold in 1893 Less than 100 men were employed on the creeks, taking out abou $250,000. The stores of the three commercial companies were greatl overstocked, shipments having been made on the assumption that th town would contain a population of at least 2,000 this winter. Th visible supply of liquors on September 15 consisted of 3,000 gallon of whisky and 437 barrels of beer.

Fort Yukon is practically deserted, there being only two or thre white persons in the place in September. No discoveries of gold hav been made on the Porcupine and Beaver rivers, and those stream have been abandoned by prospectors.

Rampart City (Minook) has barely held its own. On August 20, 1899, there were about 300 people in the town, of whom 35 were women, and there were about 200 men on the creeks. By the close of naviga- tion the population was greatly reduced through departures for Nome,

and it is probable that not more than 200 people are passing the winter there. The output is estimated at $150,000, or about the same as the preceding year. (*a*)

Good prospects have been found on Eureka Creek, a tributary of Baker Creek, which enters the Tanana River from the eastward about 70 miles above its mouth. A pay-streak 5 feet deep and 40 feet wide, averaging 5 cents to the pan, has been located on one claim; but as the ground is deep and there is not an adequate supply of water, work can not be conducted profitaby at the present cost of labor and supplies. The district was practically abandoned during the winter on account of the Nome stampede.

In September, 1899, sensational reports were received at St. Michael and Nome of a rich strike on the upper Koyukuk, and this news was no doubt transmitted to the States. It was reported that ground which yielded $100 per day to the shovel had been opened up on Slate and Myrtle creeks, tributaries of the Middle Fork. The first and only authentic information received relative to this new strike is contained in a letter, dated January 18, 1900, from the representative of one of the commercial companies at Bergman, a trading post located on the Koyukuk about 525 miles above its mouth. The following statement is taken from that letter:

> There is a gold belt running almost east and west and cut first by the Allenkaket River, 12 miles above Bergman, where good prospects have been found and some 12 or 14 men are now at work. Then comes Johns Creek, about 3 miles above Clow, our new station, which taps the belt, and we expect just as good results from it as from any of the others. Then 10 miles above that is Wild Creek, where they are doing considerable practical prospecting. Platinum in paying quantities has been found with the gold, averaging 3 grains of platinum to 1 grain of gold, and it is expected to pay in gold alone; but up to the present time there has not been enough work done to prove this statement. The men are still at work and we expect to hear from them favorably any day.
>
> Next comes the North Fork of the Koyukuk. That was struck late last fall by inexperienced men; but the surface prospects they found were sufficient to cause a stampede from Myrtle and Slate creeks, and a number have neglected their claims there to prospect on the North Fork. Myrtle and Slate creeks are tributary to each other, and empty into the Middle Fork. They are the creeks on which pay was first found, and though up to the present time there has been nothing startling found, it has been proven that they are rich. There was some sluicing done last summer and good money made, but had the parties known how to mine they would have made three dollars where they made only one. They were so careless in their clean up that after

a Information received at St. Michael February 1, 1900, indicates that there are about 300 men at work in the Rampart diggings. Little Minook and Little Minook, Jr., are said to be the best creeks, and good results are being obtained from winter work.

they had quit work and started down for supplies other men fou pieces of gold in their boxes weighing as high as $2.

Just over the divide from the head of Slate Creek is Lake Cre which empties into the South Fork of the Koyukuk, where they ha found good prospects.

Then the South Fork itself has developed some bench claims th promise big returns with an expenditure of a few thousand dollars machinery for hydraulic purposes. These benches have been pr pected and rich gravel found, but as yet they have not reached b rock. So we do not know how deep it is to bed rock nor whether the is pay on it or not, but they have a pay streak from 5 to 19 feet de and 300 feet wide that averages 6 cents to the pan, and sometimes th find pieces that go as high as $1.75.

This is all we know at present in regard to the extent of the countr but if it was measured it would certainly cover an area of 20 miles width by at least 100 miles in length, it being all of the latter distan in a direct line from the Allenkaket to the South Fork of the Koyuku with all these streams cutting through the belt at different poin There are other streams that are supposed to cut into this belt, but yet no one has been on them; so we know nothing about them.

Our new town site (Clow) is situated 80 miles above Bergman, whi puts it within 55 miles of the farthest diggings we have, with t exception of the Allenkaket, and the miners on the Allenkaket w have to depend on Bergman as a base for their supplies for the preser

Distances from Clow are as follows: Slate and Myrtle creeks, miles; Twelve-mile Creek, 43 miles; North Fork, 24 miles; Wi Creek, 14 miles; Johns Creek, 3 miles.

The diggings on the South Fork are less than 50 miles from Clo by making a portage of about 15 miles from the South Fork to t Middle Fork.

There are about 150 miners in the country at the present writin and they are all cheerful and hopeful and working hard. In Decembe 21 men came in from Circle City. They are all practical miners, a as soon as they had looked around for a few days every one of the became interested in property, either by buying an interest or takir a lay on the different claims. They all say that the country loo well and that they are satisfied to stay with it. This has improved t spirits of all the men in this region, and they have gone to work wi renewed energy.

This information is accepted as reliable, and several old residents the Koyukuk now in Nome express their determination to retu there. Even if the reports should receive no further verification, is probable that an important stampede for the new gold fields of t upper Koyukuk will occur during the coming summer. Leaving o of consideration the possibilities of rich finds, the inaccessibility the new section and the uncertainties of the enterprise offer irr sistible attractions to the typical prospector.

It was stated in a former report (Bulletin No. 16) that the Koyuk was navigable for only about 300 miles. This statement was based c information furnished by steamboat men who up to that time had n succeeded, on account of low water, in reaching a higher point tha

that indicated. During the season of 1898 it was practically demonstrated that 300-ton steamboats could ascend the river at a good stage of water for a distance of 650 miles. The country is well timbered and contains large deposits of coal of good quality, and, with the exception of the cost of transporting supplies, presents no obstacles to the successful operation of its mines.

There have been some developments in coal mining along the Yukon. During the winter of 1898–99 the Alaska Commercial Company opened up a coal vein on Nation River, 30 miles below Star City. The coal was bituminous and of a high grade. Two thousand tons were mined during the winter, but the deposit was pockety, at no time during development showing a true coal measure, and it was practically worked out.

The North American Transportation and Trading Company worked their coal mine at Coal Creek, and took out 1,300 tons, some of which was sold in Dawson at $25 per ton.

Eighty miles above Anvik a coal vein which shows a high grade of lignite is being extensively worked during the present winter, under a contract with the Alaska Commercial Company to supply 5,000 tons during the next two years.

The price of coal at the mines is $20 per ton.

During the winter of 1898–99 a large number of men were engaged in chopping wood on the Yukon, and at the opening of the navigation season of 1899 there were probably 25,000 cords of wood scattered along the river. The price at the beginning of the season was $12 per cord, but it soon dropped to $8, and toward the close of the season choppers were glad to dispose of their wood at $4 per cord, and much was sold at even lower prices. This large reduction in price was in a measure caused by an oversupply, but principally by the Nome excitement, everybody on the river being desirous of getting to the new gold fields before the close of navigation. There are now some 15,000 cords of old wood lying at the wood yards. Hundreds of cords, in small quantities of from 25 to 100 cords, have been abandoned by the owners, nearly all of whom joined the Nome stampede.

GOLOVIN BAY AND NOME.

A number of men who were unable to secure transportation from St. Michael to Dawson in the fall of 1897 passed the winter of 1897–98 on Fish River, a tributary of Golovin Bay. They were attracted by the fact that a silver mine located on one of the tributaries of Fish River had been successfully worked for several years, and by the reports of natives that gold had been found by them on some of the streams in that vicinity. Considerable prospecting was done on Fish River and its tributaries during the winter. Good prospects

were found on a number of creeks, and Sweetcake and Ophir, t best creeks so far opened up, proved rich. Fair returns were secu from such desultory work as could be done during the summer 1898. The lack of supplies made it impossible to engage in ext sive operations. On account of the discovery of rich placer diggi at Nome, the Fish River mines were practically deserted during t past summer; but many of the owners of property there have retur this winter, and active mining operations will be carried on duri the coming summer, with every assurance of success. Golovin C (formerly Council City), the distributing point for the Fish Ri placers, contains a population of about 150 at the present time.

In September, 1898, N. O. Hultberg, H. L. Blake, John Bryntes and J. L. Haggalin sailed from Golovin Bay in a 5-ton schooner the purpose of prospecting for quartz in the exposed ledges along t coast to the westward. When in the vicinity of the present mini camp of Nome, a heavy storm arose, and they were washed into t mouth of Snake River, a shallow stream which empties into Beri Sea about 13 miles west of Cape Nome. The storm continued several days, and since the party had nothing to do but wait for bet weather, they occupied the time in prospecting the streams in t barren hills 4 or 5 miles back from the beach. They prospected t or three creeks with surprising results, getting from 50 cents to to the pan a foot below the surface. They staked Anvil, Dexter, a Glacier creeks and Snow Gulch, and organized the Cape Nome mini district, extending along the coast for 20 miles to the westward fr Cape Nome, and embracing the Nome, Snake, and Penny rivers a their tributaries. Recently Penny River and its tributaries have be made a part of the Cripple and Granite mining districts. After t storm subsided the party went back to Golovin Bay, with the und standing that when they secured supplies they would return to Sna River. The original discoverers organized another party, consisti of John Brynteson, A. N. Kittleson, Eric O. Lindbloom, Japhet Lin berg, G. W. Price, and a Laplander named Johan Tornensis, and ab the middle of October this party sailed from Golovin Bay for Sna River. On their arrival they ascended the stream to the point p viously reached. Here they prospected, with even better resu than the first party secured. After they had panned three da washing out from $30 to $100 a day, they made two crude rocke One was set up on No. 8, Anvil Creek, and the other on No. 1, Sn Gulch. The weather was freezing at the time (about October 30), a the rockers were covered with ice, so that it was necessary to h water to keep them in operation. The party took out $1,800 in thr days, and then returned to Golovin Bay, a distance of 90 miles, ov land, as the river was frozen and there was too much ice in Beri Sea to venture out with their schooner. Some of the party remain

at Golovin Bay, and others started for different places along the coast, Kittleson going to St. Michael, where he arrived December 1. He met two or three parties on the trail, who were on their way to the Golovin Bay district, but when they learned of the new strike they changed their plans and proceeded to Snake River. Among these were R. T. Lyng and Edwin Englestadt and several of their friends. On the day of Kittleson's arrival at St. Michael two outfits started for Snake River, one with a dog team and the other with reindeer, and from that time on they were going and coming all winter, sometimes two or three parties leaving St. Michael on the same day.

By April 1 a camp of considerable size had sprung up at the mouth of Snake River. The town was at that time called Anvil City, but the name has since been changed to Nome, to conform with the designation of the Post-Office Department. The original name of the town, as well as that of the principal creek in the district, was suggested by the shape of an immense rock on the top of a mountain 5 miles back from the beach, and which from that point of view has the appearance of an anvil. At that time about fifteen hundred 20-acre claims had been located, and nearly all of the creeks for many miles into the interior had been staked. When it is considered that the claims staked at the date named, if placed in a string, would stretch the entire length of the State of Illinois, it must be admitted, even by those who deprecate the use of powers of attorney in locating mining claims, that this little band of hardy pioneers were, to say the least, very industrious.

Before the opening of navigation in the spring of 1899 the news of the strike at Nome was generally known throughout northern Alaska and as far up the Yukon as Dawson. It attracted but little attention and created no interest in the Klondike region; but almost the entire population of the Golovin Bay district and many from St. Michael and the small camps on the Lower Yukon made haste to get to Nome. By May 15 there were about 250 men in the camp. At that date a few log cabins had been built, but most of the people lived in tents. The schooner *Bear*, from Unga, was the first vessel to arrive. She dropped anchor on May 28 at the mouth of Nome River, 3½ miles east of the present town of Nome. On June 8 three whalers arrived, and these were followed, on June 17, by the steamship *Garonne*, with 150 passengers. These accessions brought the population up to about 400. Many vessels arrived during the succeeding six weeks, and by July 10 the population of the district had increased to 2,500. Probably one-half of this number came from points on the Upper Yukon.

Water began to run in the creeks on June 20, and active mining operations were soon under way on Anvil, Glacier, and Dexter creeks and Snow Gulch, which are situated from 5 to 8 miles from town.

Anvil, as far as shown by developments, is the best creek in the district. It is about 7 miles in length and empties into Snake River 4

miles in an air line from the beach. There are about 30 claims of 1 acres each and a few fractional claims on the creek. The ground shallow, running from 2 to 5 feet in depth, and the pay streak h been proved to be over 150 feet wide on several claims. Discovery a little more than halfway from the mouth to the head of the creel and from No. 3 below Discovery to the head it has proved to be ver rich. No. 1 below yielded as high as $14,000 in a clean up, and pr duced $115,000 during the season. No. 8 above produced $192,00 and two or three other claims passed the $50,000 mark. Many larg nuggets have been found on Anvil, No. 1 below Discovery having pr duced two weighing $213 and $320, respectively. Quartz, Specime and Nickola gulches, tributaries of Anvil, appear to be as rich as th creek itself, but they are short, none of them having more than two c three claims. Good prospects have been found on the bench claims o Anvil, but their value is not yet proved. Some sales have been mad at prices ranging from $45,000 to $75,000 for a 20-acre claim.

Over the divide to the westward of Anvil is Snow Gulch, whic empties into Glacier Creek. This is a short gulch, having but thre claims and a fraction, but it contains the richest ground yet opene up in the district. Nuggets weighing as high as $150 have bee found. In a run of twenty-four hours $7,000 was taken out, wit three men shoveling in. The gulch produced about $300,000 durin the short season. Drifting is being carried on at present, the deepe point to bed rock being 11 feet. The gravel is dry and easily worke One dump taken from a pay streak 5 feet deep and 20 feet wide ave aged $6 to the pan. If the ground untouched averages as well as th which has been worked, the four claims on this gulch will produc $1,000,000 apiece.

Glacier Creek, a tributary of Snake River, is about the same lengt as Anvil, but is wider and carries more water. It is probably as ric as Anvil. Discovery is about 2 miles from the mouth of the creek No. 2 below and No. 3 above have been developed and proved to b rich, and good prospects have been found as far up as No. 8 above.

Dexter Creek, which heads over the divide to the eastward fro Anvil, is a tributary of Nome River, which runs parallel with Snak River and empties into Bering Sea 3½ miles east of the mouth of th Snake. Dexter is rich, but the supply of water was insufficient fo sluicing during the latter part of the season, and since no ground wa opened up early in the season no great output was reported. A high as $300 a day was taken out with a rocker. Some of the larges nuggets produced in the district came from this creek, many weighin from $25 to $80 apiece. On one claim two men shoveling onto a dum in the absence of water picked out $300 worth of nuggets from th dry gravel in one day.

Dry Creek, a tributary of Snake River, and Mountain Creek,

tributary of Glacier Creek, are rich. Bedrock has not been reached, but as high as 50 cents to the pan has been found.

Bonanza, a short gulch running parallel with Mountain Creek and emptying into Glacier, has but two claims. One pan of gravel taken out 18 inches below the surface produced $4.60.

There are many other creeks—Lindbloom, Gold Bottom, Bourbon, Sunset, Monument, Moonlight, Little—all tributaries of Snake River, which were prospected during the season. No large output was reported from any of these creeks, but they are likely to prove rich, as coarse gold has been found on all of them.

Osborne and Buster creeks, tributaries of Nome River, and Lillian Creek, a tributary of Buster, promise to be good producers.

Just above Buster is Dewey Creek, which prospects well, but no development work has been done.

Next above are Mineral and Basin creeks, both of which show 50 cents to the pan and a pay streak at least 50 feet wide.

Just above Basin Creek is Sampson Creek. Then come Manila, Hobson, and Schley creeks. Good prospects have been found on all of these streams, but no development work has been done.

Besides the creeks designated, there are many other tributaries of Snake and Nome rivers which show good prospects and promise large returns.

About 250 men worked for wages on Anvil Creek during the season, 200 men were employed on Glacier and Snow, and about 200 found employment for wages on other creeks. Wages in the creek diggings were $5 per day and board, with a bonus of $3 per day at the close of the season for continuous service.

Since there was no systematic method of shipping gold dust, it has been impossible to secure an accurate statement of the output of the creek diggings, but it is conservatively estimated at $1,200,000.

At this point the account of the financial results of the first year's operations at Nome would cease were it not for the remarkable development of the beach diggings during the summer. Before taking up this subject it will be necessary to review briefly the situation at Nome in June and the early part of July. During this period several hundred men who had spent the winter in idleness on Kotzebue Sound or in other unproductive sections of Alaska arrived at Nome, and by July 10 there were 1,000 destitute men in the camp. It was impossible for more than a very small percentage of these men to secure work, for there were but limited opportunities for employment, either on the creeks or in town. Only a small number of claim owners were working their claims; in fact, there were comparatively few claim owners in the district, since a large proportion of the claims had been located by power of attorney for nonresidents, who were holding them for speculative purposes. This idle class contended that the claims should either

be worked, thus giving them employment, or be thrown open for reloc tion by bona fide locators, in accordance with the letter and spirit o the United States mining laws. It was also contended (and this co tention seems to be borne out by the facts) that a large number of claim had been located by aliens, principally by Laplanders in the employ o the reindeer stations. By using the reindeer furnished by the Gover ment for the beneficent purpose of supplying sustenance to the hal starved natives along this barren coast, these favored foreigners wer so well equipped for their enterprise that they frequently outstrippe their less fortunate domestic competitors in the race for a rich claim It was charged that in some instances an individual had located fo himself and absent friends twenty or thirty claims, and that not a singl one of these claims had ever had a pick stuck in it. A glance throug the records indicates that this charge had a basis of fact. As a conse quence an era of "jumping" was inaugurated, and it is no exaggeratio to say that there is scarcely a claim on any good creek that was not relo cated at least twice during the three weeks ending July 10; while if claim of any value was known to have been originally located by a Lap lander, he could count on half a dozen or more energetic contestants The attorney for one of the richest mine owners in the district has fur nished the following explanation as to the alleged misuse of powers o attorney: "It is alleged that a great many claims were staked by powe of attorney for people living in New York, Philadelphia, and othe places outside of Alaska. This is not true. I doubt whether there ar more than half a dozen locations by power of attorney in the distric made for people who were not in Alaska or who could not have gotte here as easily as the man who carried the power of attorney; but inas much as the local law, of which the recorder had a copy, permitted loca tions by power of attorney, a few friends would club together and giv a certain man their power of attorney to go up and locate for them rather than that all should endure the hardships. They either grub staked the man or paid him for his services."

The "jumping" mania comprehensively embraced everything i sight. It was no unusual experience for a man who thought he owne a town lot to arise in the morning and find four or five tents on hi property, all occupied by facetious squatters, who declared in respons to his protests that they would stay there until the United States cour was established and removed them. At this time there was no civi government in Nome, the nearest United States commissioner bein located at St. Michael, 120 miles away. The responsibility of main taining order therefore devolved upon the commandant of the smal military detachment stationed at Nome, and he and his force were kep busy day and night for ten days dispersing the angry crowds whic gathered on the streets and adjusting disputed titles to mining claim and town lots.

Such was the state of affairs on July 10, 1899, on which date a miners' meeting, attended by 450 men, was held for the purpose of considering the situation. At this meeting the following preamble and resolution were introduced:

Whereas it appears upon a careful perusal of the records in the district recorder's office of this district that but two miners' meetings have heretofore been held in the district, and that at the first of said meetings, held October 15, 1898, for the purpose of organizing this district, only six persons were present, to wit, A. N. Kittleson, G. W. Price, John Brynteson, Japhet Lindeberg, J. T. Tornensis, and Eric O. Lindbloom; and

Whereas at said meeting, purporting to organize said district, the boundaries were so indefinitely described that it would be impossible to ascertain that any claim was in the district without an authentic survey thereof, in that said district is not defined by any natural boundaries or watersheds, as has heretofore been the custom; and

Whereas the records of the district further disclose that a majority of the claims in the district have been located, staked, and recorded, either individually or by power of attorney, by the original locators of the district without any rule or regulation governing the location, manner of recording, amount of work necessary to hold possession of said claims, or how said claims shall be marked on the ground, as authorized and required by the United States statutes, thus omitting the requisite and necessary provision for the successful and intelligent working of the claims in the district; and

Whereas it appearing that at the first meeting organizing said district one or more foreigners were present and took part in the same; and

Whereas it has been ascertained that claims are in possession of aliens, who are holding them in the district contrary to law, and that persons so holding have been maintained in their possession by and with the connivance and assistance of certain officials illegally assuming authority so to do, and by so doing depriving American citizens of their right to locate and work portions of the public domain for mining purposes, and also that many claims have been located and are now held under false and fraudulent documents, purporting to be powers of attorney, and we believe that in many instances assumed names have been used for this purpose; and

Whereas, without going into more detail, we believe that the genius and spirit, intent and meaning, of the American mining laws have been ruthlessly violated, with a view to illegally usurping and holding a vast tract of the public domain, valuable for mining purposes, for the benefit of corrupt officials and unscrupulous corporations, to the injury of bona fide miners; and

Whereas it being clear from the face of them that the present miners' rules and regulations are wholly inadequate and unintelligible, and are not in accordance with the laws of the United States and are insufficient for the proper legal location and working of the same in the district; and

Whereas we believe that a great proportion of the claims in the district have been illegally staked and recorded without having first been prospected to ascertain the presence of mineral, as required by law; and

Whereas, ample time having elapsed since the opening of the seasd in which to commence work on the recorded claims in the district an it appearing that very few of the claims in the district are bein worked, about 90 per cent of them being idle, we believe that sai claims are being held solely for speculative purposes and that th spirit and intent of the law in this respect is being violated: Nov therefore, be it

Resolved, That it is the sense of this meeting that urgent necessit exists for the immediate passage of a set of local laws, rules, and regu lations for the governance of the district, that it may be successfull and intelligently worked and the mineral resources of the distric developed as rapidly as possible; that for this purpose laws governin the number of claims to be held by any one individual, how said claim shall be staked, recorded, and worked, the manner of working, an length of time they shall be worked each season, and such other nece sary rules and regulations as to water rights, roads, dumping groun etc., as may be necessary shall be adopted.

During the reading of the preamble and resolution the commandan had entered the hall with a sergeant and three privates and place them at the upper end of the hall with fixed bayonets. At the clos of the reading he peremptorily ordered the meeting to disperse. Th chairman inquired by what right the order was given. The com mandant replied, "You must immediately disperse, or I will clear th hall." The chairman then asked whether the meeting would b allowed to consider the preamble if the resolution was withdrawn The commandant responded, "The meeting must disperse, and I wi give you two minutes to leave the hall." The meeting then dissolve in an orderly manner.

For several days subsequent to this meeting there was much turbu lence. Among those who attended the meeting were many wh violently denounced the commandant for what they characterized a "the suppression of the right of free speech." The commandan defended his action by declaring that it was the intention of thos present at the meeting, if they had succeeded in passing the preambl and resolution and reorganizing the district in accordance therewith to restake all the mining property in the district, and that he wa forced to take the course he did to protect vested interests and maintai law and order. Numerous conflicts occurred between owners an adverse claimants of mining property and town lots, and the situatio was hourly becoming more and more serious. On July 13 the com mandant promulgated the following order:

To put an end to apparent misunderstandings, the following state ment is published:

All disputed titles, whether to mining claims or town lots, sha at once be brought before the civil authorities for settlement. S long as the civil authorities can handle such matters the militar authorities will take no action. In case it becomes necessary for th military authorities to act, the claim or lot will be held in its conditio

at the time, neither party being allowed to do any work to change the condition of the same.

While there exists no objection to the holding of orderly meetings for the discussion of ordinary business affairs, in any meeting held for the purpose of acting in district affairs no person is entitled to participate excepting claim holders. Any attempt so to participate by other persons is illegal, and the proper steps will be taken to prevent it.

Decisions and orders of the civil courts will be supported by the entire power and authority of the United States troops.

No person will be allowed to carry firearms, revolvers, or pistols. Anyone violating this order will have said firearms confiscated.

There was no civil government in Nome at this time, and all matters of dispute were perforce referred to the military authorities. By July 27 it became apparent that the continued enforcement of the rule laid down in this order in regard to the cessation of work in case of disputed titles would soon result in the stoppage of work on the creeks and nearly all building operations in town. Therefore the order was on that date amended as follows:

The instructions contained in the order of July 13, 1899, posted at Anvil City [Nome], will be amended so as to permit original locators at work on their claims to continue their work in the event that anyone jumps the claim. The matter can afterwards be settled by the civil authorities.

In the meantime an event occurred which soon solved the difficult problem and brought comparative peace to the community, a thing which the military authorities had about despaired of accomplishing. This was the discovery and rapid development of rich deposits of gold in the sands on the beach in the vicinity of Nome. Before proceeding with an account of this remarkable discovery a short description of the topography of the Nome district will be given.

The northern coast of Bering Sea, from Golovin Bay on the east to Cape Prince of Wales on the west, a distance of nearly 200 miles, is bordered by low tundra, relieved at long intervals by bold headlands extending into the sea. From Cape Nome to Cape Rodney, a distance of 50 miles, this tundra has a uniform elevation along the beach of 10 or 15 feet above high tide, rising to a somewhat greater elevation at either extremity, and extending back from the beach from 2 to 8 miles, to a low range of bald hills which flank barren mountains rising to a height of 2,000 or 3,000 feet farther inland. The tundra is covered with a thick growth of moss, and contains numerous small lakes and lagoons, many of which are but little, if any, above the level of the sea. During the summer this entire area of marsh land is almost impassable, and travel inland is exceedingly difficult. Along the entire stretch of 50 miles from Cape Nome to Cape Rodney there is a flat, sandy beach, forming a slight curve and running in a west-northwesterly direction. The width of the beach,

from the tundra to the water's edge is from 50 to 200 feet, varyi with the slope of the beach and the condition of the tide. Nowh in this vast expanse is there a shrub or tree. Along the creeks th is a meager growth of small willows, but they are of little use as fu and firewood and lumber must be transported from the beach. the beginning of the season there were large quantities of driftwo the accumulation of years, scattered along the beach. This driftwo is supposed to have been brought by the ocean currents from t mouth of the Yukon. At the present writing this source of fu supply has been exhausted for a distance of 15 miles in both directio from Nome.

Gold was first discovered on the beach in January, 1899, and it w staked for a distance of 2 miles above and 3 miles below Snake Riv The claims were of 20 acres each, and extended 1,320 feet along t beach and 660 feet back from the edge of the tundra. At that ti gold was not supposed to exist in the beach itself. Only a few colo were found in the tundra, and it had been hastily staked on the ge eral principal of locating everything in sight. It was thought that might possibly be worked by hydraulic methods. The property w turned over to an association known as the Nome Mining and Develo ment Company. About the middle of June fair prospects were fou at the edge of the tundra near the mouth of Nome River, 3½ mil east of Snake River, but no work was done there. Early in July soldier stationed at the military post prospected in a little draw the edge of the tundra, just east of the town, and washed o from 80 cents to $1 to the pan. This created great excitemer and several rockers were immediately set up in the vicinity. Th rockers were crude and the men who worked them were witho experience, but they were uniformly successful, making from $ to $20 a day apiece. Within a week 50 or 60 men had built rocker and the number constantly increased until on August 5 about 400 m were rocking, being principally located on the 2 miles of bea just west of Snake River. A number of practical beach mine who had had experience in washing the ruby sands of the southe coast secured copper plates, and with this superior equipment we enabled to make from 2 to 5 ounces per day to the man. Four me working eight days with one rocker, took from a space 24 by 30 fe and 3 feet deep $5,200, or a little over $162 a day to the man. A high as $2.50 to the pan was taken out of this particular patch ground. It was now thoroughly demonstrated that the beach w enormously rich, and the entire community caught the beach feve Rockers were being constructed on every hand, carpenters makin from $25 to $50 a day in supplying the demand for their crude produc By August 10 nearly a thousand men were rocking on the beac The crowds of discontented men who had congregated on the stree

and crowded the saloons a month before had disappeared as if by magic. They were scattered along the beach for 5 miles above Snake River, where they had pitched their tents and were rocking out an average of an ounce a day to the man. During working hours the saloons and gambling houses were deserted. Many barkeepers and faro dealers spent the days in rocking on the beach, leaving a single man on watch to quench the thirst of the casual customer. Barbers closed their shops, and many others left lucrative employment in town to try their fortunes on the beach. A large number of miners who had been employed for wages on the creeks quit work, forfeiting the bonus of $3 a day for continuous work, and joined the wild rush to the beach. A few weeks before the town had been a scene of strife and turmoil. Now nearly everybody was happy, and peace and contentment appeared to reign on every hand.

But there was trouble yet to come. Some of the owners of claims along the edge of the tundra, realizing that in the original staking a rich strip of beach had been overlooked, had set up a claim to all the ground between their front stakes and high-water mark. In a few instances they had set their stakes forward so as to include the coveted strip, and even called on the commandant to support them in their attempt to hold the ground. Several of these claim owners had "compromised" with the miners by issuing permits at 50 cents a day per man for the privilege of working in front of their property, and at one time about 400 men were paying this fee. The commandant, acting under the provision in "An act extending the homestead laws and providing for right of way for railroads in the district of Alaska, and for other purposes," that "a roadway 60 feet in width parallel to the shore line as near as may be practicable, shall be reserved for the use of the public as a highway," decided that this strip could not be staked, and declared it open to the public. In the meantime an enterprising young man from Skagway had staked this strip for 2½ miles west of Snake River for himself by ingeniously placing his stakes so as to include this rich ground in a 20-acre claim 60 feet wide and 14,520 feet long, and by a diplomatic assumption of ownership under this location was at the time of the commandant's decision collecting a fee of 50 cents a day per man from 75 or 100 gullible miners.

On August 12 the commandant was forced to reverse his decision by the receipt of the following order from his superior officer at St. Michael:

Pursuant to instructions received from the commanding officer at Fort St. Michael, the following information is given to all concerned:

The 60-foot strip along the front of navigable waters is Government land only in the sense that it is to be kept open, when necessity demands, for the use of the public as a highway. It can be located and worked for mining and other purposes, with due regard to the observance of these requirements. Therefore, parties rocking out gold on such loca-

tions must be stopped upon complaint from the proper locators. The decisions are the opinion of the register of lands for this district Should parties continue to violate these rulings the rockers and oth apparatus must be destroyed and offenders arrested, if necessar Holders of claims must prosecute such offenders and not depend sole upon the troops for protection of their rights.

On August 14, two days after the promulgation of this order, t general manager of the Nome Mining and Development Compar called upon the commandant for a guard to support him in his effor to remove the miners who were rocking on the company's proper without permits. The commandant, with a sergeant and four private accompanied the general manager of the Nome Mining and Deve opment Company to the scene of operations. He deployed his me along the beach with instructions to inform all those engaged in roc ing in front of the company's property that they must immediatel secure permits or cease work. The miners collected in a body an declared, through their spokesman, that they denied the right of th Nome Mining and Development Company to the disputed strip c beach; that at the time they entered upon the disputed ground it ha not been staked; that they held it by right of original discovery an location, and that they would not cease work and thus surrender thei rights, but would submit to arrest in a body for the purpose of mak ing a test case. The commandant then arrested 286 men and con ducted them to the barracks, where they were placed under guard The general manager of the Nome Mining and Development Compan was then informed by the commandant that it would be necessary fo the company to give bonds to cover the cost of maintenance of th prisoners until such time as a civil government might be set up, whe the matter could be brought before the judicial authorities. The gen eral manager of the Nome Mining and Development Company, recog nizing the gravity if not the humor of the situation, stated that he ha not expected any arrests to be made, but had supposed that the me would stop work when called upon by the commandant to do so, an that in view of this misunderstanding he would waive further proceed ings for the time being and take legal action against the trespasser on his property when such action became possible. Thereupon th prisoners were discharged. Most of them returned immediately t their rockers, while a few of the more exuberant remained in town t celebrate their release from captivity.

The general manager of the Nome Mining and Development Com pany has furnished the following statement in regard to the trouble:

The Nome Mining and Development Company is an association formed on January 23, 1899, by Wm. A. Kjellmann, Amasa Spring, jr., Arthur E. Southward, Japhet Lindeberg, and Alex. Jernes. Its object is to mine and develop ground in the Cape Nome mining district, Alaska. The property now (August 22, 1899) claimed by the

company consists of twenty-three 20-acre claims, one 15-acre claim, and three 100-acre claims. Of these, eight 20-acre claims, one 15-acre claim and three 100-acre claims were located by the company, one of the 100-acre claims being in the Sinrock mining district, and fifteen 20-acre claims were purchased from the original locators.

The first indications of gold near the beach were found in January, 1899, by Kjellmann and Spring. It was discovered in the high river bank, about one-half mile from the Bering sea, where from 15 to 20 large colors were obtained from a shovelful of earth and gravel taken from about 2 feet below the surface. A hole was also cut through the river ice at a point where it was solidly frozen, and excellent prospects obtained from the river bed. In March, 1899, the miners in the camp held a meeting, and in defiance of all protests made by the company's representatives, reserved 40 acres on each side of the mouth of Snake River for a town site. Later this was enlarged, so that at the present date (August 22, 1899) fully 100 acres of the company's mineral locations are occupied by persons who do not recognize the company's claim to the ground.

Along the beach, since the recent excitement about the gold discoveries there, the company's ground has been relocated time and again, in face of all protests and notices, until in some cases there are five or six claimants to the same ground, each locator interpreting the law so that to him his location seems to be legal.

Owing to my absence, no steps had been taken by the company, up to July 20, 1899, to assert its right to the ground. At first, our company desired to allow each man to take at least a "grub stake" out of the beach, not waiving our interests, however. The reason for allowing them to do so was common charity, there being a great number of men from Kotzebue Sound who were destitute. Then, again, it would advertise the richness of our property. The numbers of men who took advantage of the company's liberality and went to work on the beach soon became a matter of serious concern to our company, and at a meeting it was decided to issue permits to men who wished to work on the company's ground, at the rate of 50 cents a day for each man. This we considered very reasonable, as they were all taking out from $10 to $300 a day. In one case $4,700 was taken out in ten days by four men. It can readily be seen the amount of money the company was losing each day when you consider that there were between four and five hundred men at work, and from various estimates that have been made, at least $10,000 a day has been taken out of our property for the last 30 days. Notices were posted at intervals along the coast, the following being a copy:

"NOTICE.—The Nome Mining and Development Company has decided to issue permits authorizing the holder to mine with a rocker on the company's ground. Such permits may be obtained from the general manager upon payment of 50 cents per day for each person. Permits will be given for from one to thirty days. Anyone found working on the company's ground after August 6, 1899, without such a permit will be prosecuted for trespass and larceny."

Before the expiration of the time many men called at the company's office, paid their 50 cents per day, received their permits, and went to work. The man whom I believe to be the ringleader of the whole trouble stopped me on the street and said that he had several men working for him on the company's property, and that he would come

over the next day and apply for a permit for himself and his me
This speech he repeated several times, but as yet has failed to call.
took no action until August 14, when I called on the lieutenant in co
mand at Anvil City [Nome] for two soldiers to act as a guard for o
agent as he went along the beach and warned people off our propert
No request to arrest anyone was made. The lieutenant responded
person, with a sergeant and four or five privates. I went with him
the western limit of our property, explained that some men had r
ceived permission to work our ground while others had not, and to
him that we did not claim on the water side of our stakes. I the
returned to our office and left our agent to go along the beach. Abo
two hours afterward I heard shouting and looking toward the beac
saw two soldiers marching along with some 200 miners following
Shortly afterwards I was informed by a messenger that the lieutena
wished to see me. I immediately went to him and was informed b
him that he had placed some 200 men under arrest and that he wishe
to know what the company was going to do about it. I told him tha
I had not requested him to make any arrests, but merely to send ove
a couple of soldiers as protection for our agent. He replied that h
had told the miners that they could not work on the ground without
permit and that they had said that they would continue to work unle
stopped by force, and that he had then placed them under arrest. H
furthermore stated that that was his interpretation of "protection.
It further transpired that a large number of those under arrest wer
working below our stakes, near the water's edge, the lieutenant tellin
me that I had told him we claimed the entire beach. Of cours
that part of it was a misunderstanding between him and me. He re
leased the men who had been arrested upon my informing him tha
our company intended to prosecute all men who worked upon ou
ground without permission from us. The men immediately returne
to work. The next day a great number of threats were made agains
my life, but no actual move was made. Since then we have bee
awaiting the opening of the courts here.

The principal troubles here are due to the great number of differen
interpretations which can be placed upon all of the United State
mining laws. One party says the law means one thing, and anothe
says it means the direct opposite; and to a disinterested outsider bot
parties are right.

The summary action of the commandant and its unexpected outcom
had a salutary effect, and from that time until the close of the seaso
the beach was open to all who wished to work. The number of rock
ers rapidly increased, and by October 1 there were fully 2,000 me
working on the beach. For 6 or 7 miles above Snake River there wa
an almost unbroken line of tents, and profitable work was carried o
at various points from 10 to 20 miles west of Nome. There were n
formal regulations as to the size of rocker claims. Miners placed
their rockers on unoccupied ground and marked off spaces, usually
from 15 to 25 feet along the beach, and by common consent held
undisturbed possession until they had worked out their ground, when
they moved farther up the beach.

The beach gold is fine and difficult to save without copper plates,

which were scarce and expensive last fall. The gold is found in two principal pay streaks running along the beach and varying greatly in richness and width. The richest pay streak was found on the upper edge of the beach, next to the tundra. This varies in width from 10 to 30 feet, and in many places extends under the tundra, but here the frozen ground makes rocking unprofitable. Lower down on the beach, near the water's edge, another rich pay streak exists which varies from 10 to 20 feet in width and in many places is as rich as the upper one. At several points intervening pay streaks are found, and in some localities the pay extends the entire width of the beach, but this is exceptional. The gold is found in a layer of ruby sand, generally from 1 to 4 feet below the surface. The pay dirt varies in thickness from 1 to 6 inches and lies on a false bed rock of muck or blue clay. In several instances a second layer which proved richer than the first was found. Many marvelously rich spots were worked, most of these being at the mouth of small draws at the edge of the tundra. Sand yielding from $5 to $20 to the pan was frequently found in these rich places, and as high as $72 was washed from a single pan. Coarse gold exists in some localities, pieces weighing from 50 cents to $1 being common, and a 2½-ounce nugget was picked up near the water's edge several miles above town. There were many well-authenticated instances in which men averaged over $100 a day for a month or more. The best returns reported were secured from an exceptionally rich spot about 7 miles west of Nome. Here three men, using one rocker, in forty days took out $32,000. From a hole 12 feet square and 4 feet deep they rocked out $9,000 in three days.

Work has been actively prosecuted on the beach during the winter, and it has been demonstrated that in many places wages can be made by rocking in tents or cabins. Between Snake and Penny rivers, a distance of 10 miles, 138 cabins were built last fall, and many of the occupants are taking out pay dirt and rocking it out or making dumps which will be washed up in the spring. About the 1st of January, at a point 6 or 7 miles west of Nome, a hole was sunk through the ice 150 feet from shore. One shovelful of sand from this hole yielded an ounce of gold. The inflow of water prevented further prospecting at that time; but the finding of such rich sand that distance from shore gives encouragement to the belief prevalent here that the richest portion of the beach is submerged. If this proves true it will offer an almost inexhaustible field for dredging operations.

No satisfactory estimate of the output of beach gold can be made, for the reason that comparatively little of it passed through the hands of the commercial companies. As a rule the miners were reticent about their affairs; but a large number admitted that they had taken out from $2,000 to $5,000 apiece, and showed the gold dust to substantiate the admission. It is probable that the beach produced *between $1,750,000* and $2,000,000.

No thoughtful man who walked along this golden street in the bri sunlight of last October will ever forget the picture presented the For many miles along the beach double ranks of men were rockir almost shoulder to shoulder, while their partners stripped the p streak and supplied the rockers with water and pay dirt. Nearly were working with an energy and dogged perseverance which su gested the husbandman shocking his sheaves and now and then casti anxious glances at the black cloud fast rising in the west. Othe seemingly less fearful of the future, were passing jokes or singing they worked. Scattered along the lines were many of the poor f lows who had been brought down on the revenue cutter *Bear* or coasting schooners from Kotzebue Sound, where they had spent winter of indescribable hardships. Ragged and half starved, and many cases suffering from scurvy, they had been cast on the beach Nome like driftwood, their only hope being that they might secure tran portation to Puget Sound on a revenue cutter, for which they woul be forced to pay the highest price ever charged in this country high prices—the affidavit of a "destitute." They had had visions wealth in the north which they had failed to realize through no fau of theirs, unless it be a fault to believe too implicitly what one rea in popular accounts. But here, in this barren, forbidding waste, the dreams were coming true; for there was scarcely a man in either these long lines of happy workers who could not return home at th close of the season with gold enough to enable him to spend a restf winter among his friends and bring him back next spring to the scen of his labors. In front of the tents men were "cleaning up," and i numerous cases securing from 30 to 40 ounces from the day's run of rocker. Among these was an old gray-haired miner who had spen twelve years on the Upper Yukon, where he had never made enoug in any one season to carry him through in comfort to the next. Wit trembling hands he exhibited the receipts of a commercial compan for over $6,000 worth of gold dust which he had rocked out in les than 60 days, and exultantly cried, "Thank God! I'm going home!'

It is probable that nowhere in the world has there ever befor existed for so long a period a field of production which yielded suc magnificent returns to honest labor and at the same time offered suc poor opportunities for that class of men who live on the labor o others. No further attempt was made during the fall to drive the miners from the beach, for the sentiment of the community was against such action; but every outgoing steamship carried one or more paid attorneys bound for Washington in the interest of some hastily organized exploitation company. It has been impossible to secure sufficient details from interested parties here to justify a statement as to their designs. It has been equally impossible, for *the reason that the* United States mail service is still inefficient at

this point, to learn what their agents are doing in Washington. It may be assumed, however, that there is now at the national capital a thoroughly equipped contingent of procurers seeking concessions which shall enable their principals to acquire possession of the Nome beach and thus divert from its legitimate channels the vast wealth which lies buried there. The beach ought to be reserved, under proper regulations, for the exclusive benefit of working miners.

The successful operations on the beach and the incidental discovery that the pay extends under the tundra attracted attention to that hitherto unpromising stretch of barren marsh land. In a very short time all the tundra in the immediate vicinity of Nome was staked in 20-acre claims, and some prospecting was done during the fall. Colors were found everywhere, but the inflow of surface water prevented the sinking of holes to a sufficient depth to prove whether or not the tundra would pay. Enough was done, however, to indicate that this vast area was built up by the sea, which is constantly receding and leaving a deposit of gold-bearing ruby sand that may be as rich as that now so easily worked on the beach. This is conclusively shown in some localities by the existence of driftwood far below the surface at points a mile or more inland. During the winter active prospecting has been carried on near the town of Nome. A hole is being sunk at the eastern end of the town, about 500 feet from the beach. The ground was frozen to a depth of 16 feet, and at a depth of 22 feet a stratum of oil-bearing sand was struck. At 23 feet the original ruby sand of the beach was reached and showed prospects of 30 cents to the pan. There is no doubt that the tundra in this immediate vicinity will pay, and preparations are being made to work it on a large scale. Two miles inland, near the mouth of Anvil Creek, a hole sunk in the tundra has shown from 35 cents to $1.50 to the pan at a depth of 18 feet, and bed rock has not yet been reached. In commenting on these new discoveries the Nome News says:

Prospecting the tundra was suggested by Prof. Angelo Heilprin, the eminent geologist of the Philadelphia Academy of Sciences, who made a brief examination of this section last fall. Professor Heilprin was enthusiastic over the camp and its prospects. He believes that a vast ledge exists somewhere out in Bering Sea from which the gold has been deposited on the beach and in the adjacent tundra, which was once the bottom of the sea. He also thinks that the bench claims of this section will prove richer than the creek claims.

In the same issue the News refers to this subject editorially as follows:

That the tundra which skirts the coast of Bering Sea for hundreds of miles will be found to be rich in gold seems to be a fact that is fast approaching the fullest demonstration. Mining men of large experience, and mining experts who have devoted much attention to the tundra as a probable gold producer, unite in the opinion that the

tundra will prove to be almost incalculably rich in places. Gold diffused throughout these long stretches of waste land, and where b have been formed by the action of the winds and waves, at a ti when Bering Sea covered these plains clear to the mountains, will found vast deposits of the precious metal. Prospecting that l already been done seems to prove this statement, and work now un way and contemplated before next spring will prove beyond a per venture that this section is really what many of us believe it to be, t greatest gold field of any age or country.

As intimated in the foregoing extract, it is now almost conclusive shown that gold exists in paying quantities throughout the entire leng of the coast from Cape Darby to Cape Prince of Wales, a distance more than 200 miles. The beach itself is rich for 30 miles west Nome, although showing some short stretches which will not p under present methods. Good prospects are found all the way alo the beach from Nome to Golovin Bay, about 70 miles, and near t eastern limit of this stretch of beach $2 to the pan has recently be found within 6 inches of the surface. It can be asserted with confiden that the beach will pay (with barren spots here and there) for more th 100 miles, and nearly all the creeks along this stretch of beach and far i land have shown good prospects. Reports from Port Clarence, 85 mil west of Nome, indicate that the beach there will pay. Cape York, 5 miles still farther west, is attracting considerable attention, and reli ble men report that many of the creeks there are rich. The Bonan mining district, which adjoins the Cape Nome mining district on th east, contains many creeks which show good prospects and which wi be worked next summer. The Norton Bay country, which has bee pretty thoroughly prospected this winter and from which good resul were expected, has proved a disappointment. The Ungaliktoli River, which flows into Norton Bay from the eastward, was the scene c a small stampede during December and January, and 40 or 50 exp rienced miners prospected its tributaries, but did not find anything o value. Reports from Bonanza Creek, a short stream emptying int the Ungaliktolik 7 miles from its mouth, indicate that 25 cents to th pan has been found near the surface, but these reports lack confirma tion. It would seem that the gold belt runs in a northeasterly direc tion from Nome, across the upper half of Golovin Bay, and thenc toward the head waters of the Koyukuk, thus leaving Norton Bay fa to the southward. But the immense area of gold-bearing countr already proved in this vicinity undoubtedly marks this as the mos extensive placer-gold field that has been opened up since the discover of gold in California.

Some promising discoveries of quartz have been made in the vicinity of Nome and on Golovin Bay. At the head of Nome River free-mill ing gold ore has been found, running as high as $270 to the ton. O *Fish River* there are large deposits of galena ore, carrying 140 ounce

of silver to the ton, which were worked for many years, the ore being shipped to Puget Sound as ballast. The low price of silver during recent years has rendered operations unprofitable, and the mines are lying idle. On the eastern shore of Golovin Bay, about 20 miles from Cape Darby, a ledge of hematite ore has recently been discovered. The ledge is 30 feet wide, lies between granite and porphyry, and is traceable on the surface for more than 4,000 feet up the mountain side. Blow-pipe assays show from $12 to $20 in gold to the ton. This ledge is within 3 miles of the beach, where the largest ocean vessels can anchor safely within 300 feet of the shore. If the indications are confirmed by development, this ledge will rival the great Treadwell at Juneau.

The number of claims recorded in the Cape Nome mining district up to January 10, 1900, was approximately 4,500. Of these, 300 were tundra claims, 275 beach claims, and 75 quartz claims. About 500 claims were located prior to January 1, 1899, and of these nearly 300 were open for relocation on January 1, 1900, through the failure of the owners to perform representation work during the calendar year next succeeding the year of location, as required by the United States mining laws. All of these unrepresented claims were relocated, a large number of them several times over, during the first hours of January 1. The number of location notices filed for record during the ten days ending January 10, 1900, was a little over 500, and at that date notices were being filed at the rate of 50 per day. There are more than 400 creeks and gulches in the district which have been given names and on which locations have been made. The fee for recording a location notice or transfer is $2.50. The staking of claims by power of attorney is permitted in the Nome district, a fee of $25 being charged for recording the power of attorney, of which sum $22.50 is turned over to the hospital fund. In some of the new districts location by power of attorney is not allowed, while in others the fee for recording such instruments ranges from $100 to $500, practically prohibiting their use.

At the time of the discovery of gold on the beach the outlook for the district was far from encouraging. The returns from the creeks had not been sufficiently large to justify the belief that anything extraordinary would be developed. Most of those engaged in commercial enterprises lacked confidence in the future of the camp and shaped their affairs accordingly. One of the leading commercial companies, which prides itself on being the pioneer in development of new mining districts in this region, shared the general timidity, and as a consequence landed its stock of merchandise too late in the season to share in the first year's prosperity. Two or three hundred experienced miners from the Klondike, on their way home, visited Nome during the latter part of last June and the first half of July. With

few exceptions they condemned the creeks, contending that the gro was "too shallow to pay," and intimating that the Nome excitem was simply a "boom" originated by the transportation compan On their arrival in Seattle and San Francisco their adverse rep stopped the movement to Nome. The agent of one of the transpo tion companies stated that the unfavorable impression created in States by these reports resulted in the cancellation of 250 reservati of passage by his line. The residents of Nome owe a debt of gr tude to the incredulous millionaires from Dawson. These Klond magnates could have bought for a bagatelle nearly all the rich clai in the district; but through lack of faith in muckless mines they millions of dollars slip through their fingers. The lucky owners, w were greatly disappointed because they could not unload for wl they now know to have been ridiculously low prices, are congratul ing themselves because they did not sell. A number of Klondik made investments, securing some of the best claims in the distri and have transferred their allegiance to Nome.

The first cargo of lumber arrived on June 29, and was quickly d posed of at $100 per 1,000 feet. Many buildings were immediate erected, but they were of cheap construction. Most of the busine enterprises were carried on in tents, and it was not until after t development of the beach diggings that extensive building operatio were begun. The price of lumber advanced during August to $1 per 1,000, and toward the close of the season it rose to $250. In son instances $500 per 1,000 was paid, to complete buildings in course construction. The town extends along the beach for a mile or mor and for half a mile is solidly built up. As the season advanced, t character of the buildings improved, and there are now several tw story buildings, costing from $10,000 to $15,000 apiece. The Alask Commercial Company conducts its business in a large store buildin and has two large warehouses; the North American Transportation an Trading Company has a warehouse and a two-story building, which the largest and finest structure in town; the Alaska Exploration Com pany has a store building two stories in height, and the Kimball Com pany occupies one of the finest buildings in town. Claflin Brother have a large two-story building, in which they conduct a general mer chandising business, and there are a number of smaller concerns which enjoyed a good trade as long as their stocks held out. All o the large companies appear to be doing a profitable business at Klon dike prices.

Late in October the regular annual "grub scare" occurred. Ther was an almost unanimous belief that the food supplies in the distric would not last till Christmas, and starvation once more "stared every body in the face." At this crisis the commercial companies practi *cally doubled* the prices of their commodities, and the wages of com

mon laborers advanced to $2 per hour. It has never been satisfactorily determined which of these sudden economic changes occurred first. The merchants claim that their laborers struck for an advance, which they granted, and at once raised their prices. The laborers, on the other hand, contend that the merchants were the aggressors, having advanced prices without tendering them a corresponding advance in wages, and that they were forced to strike in order to maintain their standard of living. These events were so nearly simultaneous that the contest as to priority must be declared a draw.

The food panic caused a large number of people to take passage for the States, and in the meantime two or three steamships, long overdue, arrived with supplies. As a consequence, the community is amply provided with all the necessaries and many of the luxuries of life, and prices are now (March, 1900) practically the same as they were during the summer. A few quotations are given of the prices fixed by the commercial companies January 1, 1900, the quotations being per pound except where otherwise stated: Bacon, 35 cents; baking powder, $1; beans, 12½ cents; beer (per dozen quarts), $5; butter (canned), $1; candles (per box of 120), $4; coal oil (per gallon), $1; coffee, 50 cents; corn meal and all cereals, 12½ cents; crackers, assorted, 40 cents; crackers, soda, 25 cents; eggs (per case of 30 dozen), $40; flour (per 100 pounds), $5; ham, 40 cents; lard, 20 cents; mackerel (per kit), $5; molasses (per gallon), $2; sugar, 25 cents; tea, $1; tobacco, all common brands, $1.50; whisky, $12 per gallon and $30 per case.

During July and August five or six restaurants did a good business, charging $1 for a regular meal, with choice of fresh beef, or reindeer, or ham and eggs. A dinner by the card cost from $1.50 to $5, the fare being much better than like prices command in Dawson. Toward the end of the season prices advanced greatly, and during the latter part of October a meal like that for which $1 was charged in August, cost $4 or $5. Some of the prices were as follows; Porterhouse steak, $2.50; tenderloin steak, $3; plain steak, $1.50; reindeer steak, $2; ptarmigan, $2; pork chops, $1.50; mutton chops, $1.50; boiled mackerel, $1.50; corned-beef hash, $1; pickled pigs' feet, $1; cold ham, $1; hamburger steak, $1.50; sardines, $1; ham and eggs, $2; dried fruit, 50 cents; hot cakes and maple sirup, 75 cents; coffee with bread and butter, 50 cents. Since the reduction of store prices to the old figures there has been a corresponding reduction in restaurant charges, and a good meal now costs from $1 to $2.50. If a patron wishes wine with his dinner, his wish can be gratified by the payment of $3 for a bottle of claret or $7.50 for a small bottle of champagne.

There were no fixed rates of wages in town at the opening of the season. Carpenters received $1 per hour as a rule, and common laborers were paid $7.50 per day. Later in the summer the wages of

carpenters advanced to $1.50 per hour, and remained at that fig until building operations ceased. Wages of common laborers s rose to $1 per hour. Just before the close of navigation the comm cial companies were obliged to pay $2 per hour to a large force of n for a short time to unload their vessels. Wages on the creeks, before stated, were $5 per day and board, with a bonus of $3 at end of the season for continuous service. The developments on beach caused many miners on the creeks to throw up their work engage in rocking. During September and October $12 per day, w board, was paid to a few men on the creeks, but it was difficult secure men even at this increased rate. A number of men employed on the beach and on the creeks this winter at $100 per mo and board.

The fuel problem has given the community great concern throughc the winter, and it is becoming a very serious matter for people of limit means. The visible supply of coal at the close of navigation was l than 1,000 tons. The regular price then was $75 per ton, but spec lators readily obtain $125 for all they can command. Coal is sold the sack at a price which makes it cost the consumer $200 per tc Nearly all the driftwood on the beach for a distance of 15 miles either direction from town has been used in the construction of cabi or for fuel, and before warm weather comes it may be necessary to 10 miles farther to get good wood. A large proportion of the dri wood is rotten and furnishes but little heat. Wood of ordina quality sells for $35 per cord, while from $50 to $75 per cord is readi obtained for the best. Fortunately the winter has been exceptional mild. The weather has been delightful, nearly every day being brig and clear. The highest temperature during October was 45 degre above zero, and the lowest 21, the mean being 33. For November t highest was 31, the lowest 2, and the mean 19. The highest in Dece ber was 35 above, and the lowest 38 below zero, the mean being above. In January the highest temperature was 29 above, the lowe 38 below, and the mean 3 above zero. The mean temperature for t four months was 16 degrees above zero. The snow fall has not exceed 18 inches, and the snow disappears as fast as it falls on account of t prevailing winds. If it were not for the severe winds the weath during the entire period under consideration would have been perfec The highest velocity of the wind recorded was as follows: In Octobe 30 miles per hour; in November, 40; in December, 15; in January, 4 There were not more than twenty days when it was disagreeable be out of doors. The wind seldom blows when it is extremely cold.

At the beginning of the beach excitement there were 8 or 10 saloon but by the close of the season the number had increased to 20. Th price of drinks and cigars in most of the saloons is 50 cents, but the *are a few 25-cent* houses. At the height of the season one of th

leading saloons took in from $2,000 to $3,000 a day over the bar, and also conducted a highly-productive gambling department. The margin of profit in the whisky traffic is much greater than in Dawson, for retail dealers ship their liquors direct from Puget Sound at freight rates, which add comparatively little to the original cost.

A careful canvass of the town, made on November 25, with a view of ascertaining the number of commercial enterprises, professions, trades, etc., represented, showed the following result: Six bakers, 20 saloons, 5 laundries, 12 general merchandise stores, 3 second-hand stores, 4 wholesale liquor stores, 4 hotels, 6 restaurants, 6 lodging-houses, 4 real estate offices, 2 paper-hangers, 3 fruit and cigar stores, 2 tinshops, 4 drugstores, 2 photographers, 1 brewery, 3 watchmakers, 2 sign-painters, 2 meat markets, 1 boot and shoe store, 1 book and stationery store, 3 packers and forwarders, 2 dentists, 11 physicians, 16 lawyers, 1 mining engineer, 2 surveyors, 4 bath houses, 1 massage artiste, 1 bank and safe deposit, 2 printing-offices, 1 confectionery store, 1 blacksmith shop, 1 assay office, 2 contractors and builders, 2 hospitals, 4 barber shops, and 2 clubs.

The population increased rapidly from the middle of September to the middle of October. Early in September the reports from Nome began to gain credence in Dawson, and within a week or two a stampede was on which taxed the capacity of the available steamboats to the utmost. Probably 2,500 people left Dawson and upper river points for the new gold fields, a large number who could not secure passage on steamboats undertaking the journey in small boats. About 1,500 reached Nome during the fall, while the other 1,000, who were caught by the freeze-up at various points on the river, are now making their way over the trail to their destination. At one time during October there were nearly, if not quite, 5,000 people in the district, but probably half of these sailed for the States, making the present population of the district about 2,500. The last steamer sailed on November 3.

The governor of Alaska and the judge of the United States court at Sitka visited Nome about the 1st of September on a tour of inspection, and they have no doubt made reports on the situation to their respective departments at Washington. A United States commissioner was appointed and qualified early in September, and gave the community its first experience in civil government administered on the spot. His jurisdiction being merely that of a justice of the peace, all important legal controversies are held in abeyance until a court of competent jurisdiction is established.

On September 15 a municipal government was established and city officers elected. There is no law providing for a municipal form of government, but the existing organization was considered a necessity, and with few exceptions receives the hearty support of all classes.

The city officials receive salaries ranging from $100 to $300 per month. There is a volunteer fire department, under the control of the city government, and strict fire regulations are enforced. The police force, which consists of a chief and three patrolmen, maintains good order. Only one murder has been committed, and petty crimes are no more prevalent than in towns of like size which are favored with a legal form of government. The expenses of the city government are defrayed by a property tax. The rate of taxation is 1¾ per cent on a total valuation of $1,556,650.

There is a lucrative field here for the exercise of legal talent, but it is fully and uniquely occupied by the fifteen or twenty lawyers now on the ground. Nearly every rich claim in the district is encumbered by from two to ten lawsuits, which can not be tried until a court is provided. In the meantime the original claimants and the numerous contestants are taxed to the limit of their resources to supply the sinews of war. In addition to all the cash in sight, the usual contingent fee in such cases is a half interest in the property involved. Some of the more conscientious attorneys have been content with a third interest, but such displays of diffidence are rare. Early last spring the original locator of a rich claim employed a prominent attorney to defend his title against a number of adverse claimants who were giving him the customary trouble. By a series of brilliant stratagems, which probably owed their inspiration to no recognized code of procedure, his legal protector succeeded in quieting title, but the result was not exactly what he had hoped for. The attorney and one of the adverse claimants now own the property, and the former is supposed to be in Europe enjoying the fruits of his first season's "clean-up," while the original locator is out in the hills prospecting for another rich claim.

The condition of Nome as regards sanitation is similar to that of Dawson in 1897. The town is situated on a flat, and during the summer months a pedestrian in crossing the town site sinks nearly to his knees in the moss and muck. There was much sickness toward the end of the season. The city physician has furnished the following statement:

Up to the present time (January 8, 1900), there has been little done by the municipality in regard to draining the surface or providing a system of sewers. Individual property owners are required by law to ditch and drain their lots. The municipality contemplates establishing a sewer system which will carry the drainage and sewage into Bering Sea as soon as funds are available for that purpose.

The general healthfulness of this locality seems not so good as that of camps on the Yukon River in United States territory, due, I think, to the absence in this district of timber, and to the comparatively small size of the streams which supply our fresh water; therefore the surface water with its organic matter is not as thoroughly aerated in its travels as is the water of the Yukon or mountain streams.

The prevailing diseases last summer and fall were bloody dysentery, typhoid fever, rheumatism, pneumonia, and mercurialization. During the latter part of the summer dysentery was very prevalent, so much so that one would see blood in every public convenience. It affects the newcomers principally, and lasts from several days to several weeks. It is due to the water, and is found much aggravated in drinking men. Mercurialization was a common and annoying affliction, but was due entirely to carelessness in "burning out" amalgam. Typhoid fever was extremely prevalent in the fall and early winter, due to failure to boil drinking water and general disregard of health rules by the individual. Pneumonia occurred principally in connection with typhoid fever.

I anticipate a great amount of sickness next summer and fall. While every effort will be made to keep the camp in a good sanitary condition, and every precaution taken against disease, the crowding together of the great number of people who will come here next summer will make it almost impossible to limit the spread of disease.

The health department was not organized until early in October. Since that time many necessary health ordinances have been passed by the municipal council. A hospital for the indigent sick was at once established by the municipality and opened for patients on October 6. Since then there have been 37 indigent cases (nearly all of which were typhoid fever) treated there, with 2 deaths. The number of deaths that have occurred in town since last summer is about 40. There have been 3 births, 2 of them of white parents, and 1 half-breed.

The most interesting topic of discussion here during the long winter evenings is the future growth of the town. There are many ardent enthusiasts who believe that Nome will soon outstrip Dawson in population and commercial importance. They show their faith by offering prices for town lots which would be considered, even in Dawson, good returns on the original investments. A business lot, centrally located, which was bought last September for $560, could have been sold in January for $4,000, but the owner decided to hold it for the expected "boom" next summer. There will no doubt be a large transient population here during the coming season, but the geographical conditions do not justify the belief that Nome will ever contain a permanent population equal to that of the Klondike metropolis. Dawson is the natural gateway of the Klondike gold fields, and will continue during the lifetime of the mines to be the most important town in that region. At Nome the conditions are entirely different. There is no harbor. The beach stretches away in a straight line for many miles in either direction. The water is shallow, and when the sea is rough, which is almost always the case, large ocean vessels can not anchor safely within a mile of shore. The expenses of unloading are great, and much loss has resulted from attempts to land on the beach when the surf was running high. Two or three small schooners and steamboats were wrecked last fall, and one barge-load of merchandise valued at $20,000 was washed overboard and lost. As a consequence, the transportation companies are seeking safer and less expensive points for discharging

cargo. The mouth of the Nome offers somewhat better facilities fc landing than the mouth of the Snake, and a town is likely to spring u there. Port Safety, 21 miles east of Nome, is the natural distributin point for the Bonanza district. If that district proves as rich as pre ent prospects would seem to indicate, a large town will undoubtedl grow up there. Golovin Bay offers safe anchorage close inshore fc the largest steamships, and will naturally command the commerce c that section. Eighty-five miles west of Nome, Port Clarence is th first point in that direction which affords comparatively safe anchor age, and will without doubt be chosen by the transportation compa nies as the distributing station for that region. There are severa points between Nome and Port Clarence where as good anchorag can be found as at Nome. In view of the conditions described, it ca safely be predicted that Nome will never contain a large permanen population, but that a chain of prosperous towns will spring up alon the coast from Golovin Bay to Cape Prince of Wales at such point as the local conditions shall determine to be most favorable.

An important factor in the consideration of this question is the pro jected railroad along the coast. A preliminary survey for such a roa was completed last fall from Port Safety to Port Clarence, a distanc of over 100 miles. This survey showed the distances to various point along the coast to be as follows: West from Nome—Penny River, 1(miles; Cripple Creek, 12 miles; Sonora Creek, 16 miles; Sinrock, 26½ miles; Cape Rodney, 32 miles; Fairview River, 50 miles; Port Clarence, 85 miles. East from Nome—Nome River, 3½ miles; Hastings Creek, 10 miles; Cape Nome, 13 miles; Port Safety, 21 miles. A company was organized, and it has sent its agents to Washington to secure a franchise. It is the intention to construct a narrow-gauge railroad along the edge of the tundra and tap the various mining districts with side lines from 5 to 25 miles in length. Such a road could be economically constructed, for no expensive cuts would be required except at three or four points where headlands encroach on the sea, and for almost the entire distance ballast is ready at hand on the beach. The prime mover in this enterprise, although an old man, enthusiastically expresses the belief that he will live to see his road connect with the trans-Siberian railroad and to ride from Cape Prince of Wales to Chicago in a through Pullman.

The crying need of this long-neglected part of Alaska is a strong civil government which shall insure to the humblest citizen the same rights of property that are accorded to combinations of capital, and which shall make it impossible for a few men to locate vast areas of rich mineral lands for their own benefit and to the exclusion of the working miner. Congress at its last session passed "An act to define and punish crimes in the District of Alaska and to provide a code of criminal procedure for said District," but failed to pass an act provid-

ing for a code of civil procedure, which it had under consideration at the same time. The Nome Gold Digger, in commenting upon this remarkable discrimination, pertinently says:

United States Marshal Lee and associates in office are collecting the United States taxes imposed some time since. The law permitting the taxes was one of three others, all of which were to be passed and form a complete law for the people of Alaska. This single law only passed, however, and it is a cinch and an imposition; but there does not seem to be any way to avoid the payment of these taxes, which take so much money out of local circulation and cause its shipment to Washington without returning any equivalent. The list is as follows, the tax being per annum:

Abstract offices, $50; banks, $250; boarding houses, for ten or more guests, $25; brokers, $100; billiard rooms, $25 per table; bowling alleys, $25; breweries, $500; bottling works, $200; cigar store or stand, $25; drug stores, $50; hotels, $50; halls, public, $10; jewelers, $25; mercantile establishments doing a business of $100,000, $500, of $75,000, $375, of $50,000, $250, of $25,000, $125, of $10,000, $50, under $10,000, $25, under $4,000, $10; meat markets, $20; physicians, $50; peddlers, $25; restaurants, $25; ships and shipping, ocean and coastwise vessels, $1 per ton net tonnage.

The reader with a taste for figuring, by referring to the list of business houses, professional men, etc., given elsewhere, and comparing it with the foregoing schedule, can obtain an approximate idea of the tax-yielding capacity of the community. As one glances through the schedule the question naturally arises in his mind, Why did the lawmakers spare lawyers?

The sentiment of the community on the question under consideration is well expressed in the following statement furnished by an old placer miner who has been for several years a resident of Circle City. Although the statement was prepared with special reference to conditions on the Upper Yukon, it is applicable to all parts of northern Alaska:

The placer-mining industry in the interior of Alaska is paramount to all other interests. It is all there is to induce white men to come into the country and keep them here. Indeed, it is everything, for without it the interior would be but little different from the other vast arctic wilds on this continent. A few trading posts, hundreds of miles apart, would be all that would be here. The advent of civil government into the interior of Alaska brought with it the introduction of the United States mining laws, which in the States may be all right, but here their application to placer mining is mischievous and ruinous. The United States mining laws give a man 20 acres for a placer claim, which everyone here knows is more ground than one man can possibly work in a long lifetime, as the frozen ground and other difficulties to be surmounted make the working of even a small fraction of that area an enormous task. In British Columbia a man is allowed only 100 feet of a creek for a placer claim. Experience has proved this to be quite enough for one man if the claim is good and more than enough if the claim is not good, and if a man is off his claim for three

days during the working season without a valid excuse the claim i liable to forfeiture. The United States mining laws allow a ma 1,320 feet along a creek by 660 feet in width, and give him year from the 1st of January following the date of location to do hundred dollars' worth of assessment work, or ten days' work in thi country. It also permits the location of claims by power of attor ney. It will thus be seen that a few persons can locate a creek, sa in the early part of January, and neither do any work on it them selves nor allow any one else to work it for nearly two years. The nat ural result of the adaptation of this outrageous and stupid piece of leg islation to placer mining in this country is shown by the fact that a soon as a creek that shows any signs of gold is discovered it is a once staked from end to end, and then practically abandoned in th hope that someone will find pay on some part of the creek, and thus giv a speculative value to all the other claims. At the present time there are several gangs of speculators going around the country, who have never worked in their lives and never intend to, who have located and practically locked up about a dozen creeks, so that no one will know what is in them until a year or two has elapsed, when it is believed that they will again be open for relocation, as by that time it is hoped that these good-for-nothings will be forced to leave the country on account of impending starvation. The worst feature of the case is that hundreds of others, who are willing to work and earn a living honestly, will also be forced to leave for the very same reason. Bad as the condition of things is on the Upper Yukon, it is even worse over on the newly-discovered Koyukuk, as there I am credibly informed that it is not at all unusual for a man to go up a creek on a moose hunt and as he proceeds stake out the whole creek, of course using different names. One man, with whom I am personally acquainted, told me that he had altogether 103 claims, which means that he has about 26 miles of supposed placer ground locked up for a year or two. He also mentioned the names of several others who have even a still greater number of claims than he has. The result of the application of the United States mining laws to placer mining in the interior of Alaska need not be further commented upon, more than to say that it furnishes an explanation of the statement that is everywhere made that "the country has gone to the dogs," or, in better language, "the country is ruined," as the miners who are willing to work have about lost hope and courage and all interest in the country, and do not care to make any great effort to find gold while the present conditions exist. It seems certain that if the present condition of things continues it will not be long before the country will be left to the Indians, the Government officials, and the troops of soldiers that have been stationed here to keep in subjection a people who have proved themselves to be the most capable of governing themselves of any people this world has ever known. Previous to the introduction of civil government the country was ruled by the miners themselves, and laws were made and enforced that were well adapted to the conditions and needs of the country, and of course were fairly satisfatory. During those times crime was almost unknown, and life and property were quite as secure as it seems possible for them to be in the best-ordered community in the world. As it is now realized that those times are forever past, they are looked back to with sincere regret, although all the conditions of life were then extremely hard in every respect. In those days lawyers, professional gamblers, and professional politicians

were not wanted, and, in fact, any man who would not work for a living was not wanted, and would not be endured; and I have not the slightest doubt that the future historian of the interior of Alaska will say of this country, as Bancroft said of California when it was in the hands of the vigilance committee, that it then possessed the best government it ever had or is ever likely to have.

During the days when miners' laws prevailed no man was allowed more than one mining claim in a district, and that not more than 500 feet in length, and he was required to work his claim for a full month during the working season, and if he was not on his claim on the first day of the month designated and every other day during the month, the claim was liable to forfeiture, and anyone else that wanted the claim could take it. As for a patent or title to a placer claim, no one ever thought of or wanted one. The honest, hard-working miner neither asks nor cares for anything more than to be permitted quietly and peaceably to work out his claim, and when he has done this he cares no more for the claim than the burglar cares for the safe he has just robbed. After a creek has in this way been worked out the United States mining laws could be enforced with perfect propriety, as all future work would have to be done by the capitalist, and the speculator might then be allowed his opportunity.

This statement is worthy of careful consideration, for it undoubtedly voices the unanimous opinion of miners of the old school and all others who have studied the subject from an unselfish point of view. It is just as undoubtedly true, however, that but a small percentage of those who decry the abuses complained of are proof against temptation when the opportunity arises to do likewise. Even the honest old man who made the foregoing statement, when asked whether or not he would stake a few claims for his relatives if he had an opportunity, scratched his head thoughtfully for a moment and then replied, "Well, I never thought of that; perhaps I would—if I had a chance." This frank answer suggests the remedy. No man ought to have a chance to locate more than one mining claim in a district. Of course no mining regulations which might be adopted by the General Land Office would entirely correct the evils existing in this region, for everything in sight, from the edge of the sea to the distant mountain peaks and far beyond, has been located, and in many instances "jumped." But proper regulations would be of incalculable benefit to the pioneers now turning their faces toward the undiscovered country to the North and East. A placer-mining law practically embracing the following features would give general satisfaction to the miners of northern Alaska: The establishment of mining districts by natural geographical boundaries; a system of recording under the supervision of the register of the district land office; the limitation of the size of creek, bench, and tundra claims to 500 feet square, and of beach claims to 50 or 100 feet along the beach; a restriction of the number of locations by one person to one claim in a mining district and five claims in a land district, and a requirement of at least sixty days' actual work on a claim during the open season.

The question will naturally arise in the mind of the reader, "Is Nome a second Klondike?" It does not as yet appear that any creek in the Nome district is as rich as Eldorado; but many experienced miners who are familiar with both districts express the belief that Anvil, Glacier, and Dexter creeks and Snow Gulch will produce as much gold as any like extent of creek diggings on the Klondike, and that the ultimate output of this gold belt will largely exceed that of the Klondike district. But the two districts, owing to widely differing conditions, are not comparable from an economic point of view. On the Klondike the gold as a rule lies under frozen muck at a depth varying from 15 to 40 feet, and the cost of extraction is therefore enormous. On account of the royalty exactions and the great cost of operation, claims showing a gross output near the $100,000 mark have been worked at a small margin of profit, while many others can not be operated without a large initial outlay of capital. At Nome the conditions are entirely different. Bed rock is found on most of the creeks at a depth varying from 2 to 5 feet. When stripped of its covering of moss and exposed to the hot summer sun the ground quickly thaws to bed rock and can then be shoveled into the sluice boxes at small cost for labor. The average expenses of operation of claims on Eldorado are probably fully 50 per cent of the gross yield. The owner of a rich claim on Anvil reports that his expenses last season, when much dead work was done, were less than 10 per cent of his gross output, and this percentage will hold good in many other localities. Freight from Puget Sound can be delivered on the beach at Nome for less than $15 per ton, and the creeks are easily accessible from the beach. These advantages place the Nome district far ahead of the Klondike with respect to the cost of production and insure the rapid extraction of its placer deposits. It seems quite probable, therefore, that long before the Klondike miner shall have thawed out the glacial drift which clings with icy grasp to the attenuated extremities of his pay streak the gold from the superficial deposits of Nome will pass through the mints and enter upon the performance of its ordained function as an integral part of the circulating medium of the nation.

ST. MICHAEL, ALASKA, *March 15, 1900.*

LABOR DAY.

BY MISS M. C. DE GRAFFENRIED.

Thirty-six States of the Union and the District of Columbia make Labor Day a legal holiday. This wide observance gives the celebration almost a national character. No other country sets apart by law a similar festival. Its sanction by 36 State legislatures and by Congress for the District of Columbia shows the general agreement as to the great value and importance of the idea for which the holiday stands—recognition of the rights and dignity of labor. This open, legalized recognition is one of the many results of the evolution of the workingman from a condition of bondage and serfdom into a higher civil and industrial grade.

Labor Day could never have existed but for the moral force of universal manhood suffrage under democratic institutions. Advancing civilization and our general industrial progress aided the movement. In each State where the holiday is legalized, bodies of organized workingmen helped to bring about the enactment by influencing public sentiment in their respective localities. Where no date has yet been set apart for this celebration the State governments will doubtless soon fall into line, for no serious opposition to the measure has been displayed even by legislatures which refused to enact other laws in the interests of labor—clear proof that the significance of the fête appeals to the popular heart and mind.

Much preceding legislation in behalf of the workingman led up, it is true, to the consecration of one day in the year as distinctly a holiday for wage-earners. The principle that government has a right to regulate in certain respects the conditions under which men and women toil and to secure them time for rest and recreation had already been established by the adoption in many States of factory laws and factory inspection. The ten-hour working day for women and children had been gained. Employment for young children in the mill and workshop had been restricted, and previous schooling for them required. Machinery had been rendered safer by guards and frequent inspection. Wages were paid oftener and paid in money, not in "truck" or orders on a company store. Legal observance of the Saturday half holiday had begun. Industrial schools had been established. Convict labor had in part been withdrawn from market competition and eliminated

from trade. Bureaus of statistics of labor had been founded to in tigate and describe the industrial situation.

In line with advanced labor legislation is the celebration of L Day. The trade unions which helped so greatly to secure the b ficial factory codes, through the same influence obtained the Septem holiday. All the great labor organizations in the United States c tributed to this result. Agitation for the holiday began in New Y in 1882. In September of that year the order of the Knights Labor, founded in 1869, convened in general assembly at New Y City. An independent organization, the Central Labor Union of N York, contained many bodies affiliated with the Knights, and the un chose for its annual parade September 5, when the Knights would in session. The general assembly of the Knights was invited to revi the parade of the Central Labor Union from the grand stand at Un Square, and accepted. A recess being taken, the members of general assembly witnessed the parade. As the various organizati passed, Robert Price, of Lonaconing, Md., said to the general wor foreman of the Knights of Labor, "This is Labor Day in earne Uncle Dick." The event was afterwards referred to as the Labor D parade. In 1883 the organizations of New York paraded on the fi Monday of September. In 1884 when the Central Labor Union di cussed the date for its parade, George R. Lloyd, a Knight of Labo offered a resolution declaring the first Monday in September to Labor Day. The resolution was adopted, and steps were at once take to secure an enactment making this a legal holiday, known as Labo Day. Not until May 6, 1887, however, was the law passed in Ne York.

Meantime, in other States great labor organizations and local unio made common cause with the Central Labor Union and the Knigh of Labor in efforts to secure general observance of this day as a leg holiday. Oregon was the first State to enact the law, Februar 21, 1887. New York was the first State to introduce a bill to th effect and the third to enact the law, New Jersey being the second Other Commonwealths and the District of Columbia adopted the mea ure at different dates, as shown by the table below.

Two significant features of this celebration are, first, that difference and animosities among the great labor bodies are laid aside; second, th of late employers are invited to meet with the workers in discussin topics relating to the welfare of the industrial class. In other word the standpoint of the laboring man is constantly becoming less and les alien to that of the employing class, and the worker on his one day o leisure in the year is glad to share the point of view of men with broader outlook than himself. Mr. Powderly well remarks: "Thos who discuss the questions of the hour before meetings of industrialist on that day should be educators—they should be teachers of the go

pel of humanity and its needs. Those who address such meetings are burdened with a weighty responsibility. It is their duty to teach a doctrine of independence of thought and action."

No better social measure of advancing civilization exists than the share taken in public fêtes by the laboring classes. From the circus and arena of the ancients, where slaves and captives were pitted against wild beasts, the next step was in feudal times to the lords' fêtes and celebrations, at which the lowest serf might be a looker on. Later, in the middle ages, the tenant became even a sharer in games and feasts provided by the lord, but strictly set apart for the peasantry and laboring classes. Under the present wage-earning system, the workingman arranges his own games and feasts, independent of master and employer. If progress continues, Labor Day, which is now class legislation, will in time give way to a broader anniversary in celebration of a universal labor fête based on the common achievements, not of one rank of society, but of all mankind. The cycle of change is not complete, nor the social millennium at hand. A truly national labor holiday will embrace the whole commonwealth, since all its members by hand, brain, virtue, influence, and service will contribute on equal terms to the national existence and welfare.

The statement following shows the States in which Labor Day is a legal holiday and gives the dates of approval of the original acts creating Labor Day:

The first Monday in September.

Alabama	December 12, 1892.
California (*a*)	February 23, 1897.
Colorado	March 15, 1887.
Connecticut	March 20, 1889.
Delaware	February 14, 1893.
District of Columbia	June 28, 1894.
Florida	April 29, 1893.
Georgia	October 16, 1891.
Illinois	June 17, 1891.
Indiana	March 9, 1891.
Iowa	April 5, 1890.
Kansas	March 4, 1891.
Maine	February 10, 1891.
Massachusetts	May 11, 1887.
Michigan	May 12, 1893.
Minnesota	April 18, 1893.
Missouri	April 9, 1895.
Montana	February 19, 1895.
Nebraska	March 29, 1889.
New Hampshire	March 31, 1891.
New Jersey	April 8, 1887.

a Present law. Under the original law, approved May 23, 1893, the first Monday in October was observed.

The first Monday in September—Concluded.

New York	May 6, 1887.
Ohio	April 28, 1890.
Oregon (*a*)	February 21, 1
Rhode Island	May 26, 1893.
South Carolina	December 22, 1
Tennessee	March 11, 189
Texas	February 11, 1
Utah	February 23, 1
Vermont	November 26, 1
Virginia	February 5, 18
Washington	February 24, 1
West Virginia	February 21, 1
Wisconsin	April 19, 1893.

The twenty-fifth of November.

Louisiana (Parish of Orleans)	July 7, 1892.

The first Thursday in September.

North Carolina	March 6, 1899.

The first Saturday in September.

Pennsylvania (*b*)	May 31, 1893.

a Present law. Under the original law, approved February 21, 1887, the Saturday in June was observed.

b Present law. Under the original law, approved April 25, 1889, the first Mond in September was observed.

HOURS OF LABOR AND OF REST OF RAILWAY EMPLOYEES IN PRUSSIA.

A short report to the Department of State made by Hon. Richard Guenther, United States consul-general at Frankfort-on-the-Main, Germany, shows the substance of the new rules and regulations concerning the hours of labor and of rest of railway employees which were recently promulgated by the minister of public works of Prussia. A copy of the report having been kindly furnished this Department by the Department of State, it is reproduced below:

The minister of public works of Prussia has made new rules and regulations concerning the hours of labor and of rest of railroad employees. If the duties require unremitting exertion and strict attention, the daily average of the hours of labor of station agents, assistant station agents, telegraphers, switching foremen, overseers of stopping places, and switchmen shall not exceed eight hours, and the duration of a single task shall not exceed ten hours. The daily work of railway guards shall not exceed fourteen hours. They can, however, be extended to sixteen hours on branch lines with little traffic.

The daily hours of labor of the train employees shall, on the average per month, not exceed eleven hours daily; a single task shall not be over sixteen hours. Long hours shall only be required if they are succeeded by proportionately long terms of rest. The rest shall be taken at home, and as far as possible shall be during the night. The daily hours of work for the locomotive employees, taken by the average per month, shall not exceed ten hours, and shall under no circumstances exceed eleven consecutive hours. The same provisions as to rest apply to them as to the train employees.

If the work of the switchmen requires uninterrupted hard work, the average per day shall not exceed eight hours.

Every person steadily employed in the train service shall have at least two days of rest per month. The period of rest of the train and locomotive employees at their respective homes shall not be less than ten consecutive hours.

RECENT REPORTS OF STATE BUREAUS OF LABOR STATI

ILLINOIS.

Tenth Biennial Report of the Bureau of Labor Statistics of the of Illinois. 1898. David Ross, Secretary Board of Commissi of Labor. 271 pp.

The present report relates to the following subjects: Privat municipal ownership of public works, 137 pages; public employ agencies, 96 pages; labor legislation, 37 pages.

PRIVATE AND MUNICIPAL OWNERSHIP OF PUBLIC WORKS.— information presented under this head was obtained by the Il bureau by means of schedules prepared by the United States De ment of Labor, and covers facts which will be presented for the country in the Fourteenth Annual Report of the United States missioner of Labor, 1899.

PUBLIC EMPLOYMENT AGENCIES.—This part of the report con an account of the experiences of various States and foreign coun in regard to public employment agencies, the facts presented ha been collated from official reports, statements of officials, and o sources. Copies of laws passed in Ohio, Montana, Nebraska, New York regarding the establishment of free employment age are given, together with an account of their operations in each The labor bureaus of California and Missouri have opened free pu employment offices without waiting for legislation.

KANSAS.

Fourteenth Annual Report of the Kansas Bureau of Labor and dustrial Statistics. 1898. W. L. A. Johnson, Commissio 360 pp.

This report treats of the following subjects: Taxation of prob estates, 43 pages; manufacturing and industrial conditions, 29 pa lead, zinc, and oil industries, 6 pages; factory inspection, 10 pa statistics of wage-earners, 70 pages; railway employees, 5 pages; la organizations, 20 pages; State Society of Labor and Industry, pages; State institutions, 12 pages; sociology, 13 pages; labor legi tion, 37 pages; work of labor bureaus in the United States, 39 pa *strikes and labor* difficulties, 31 pages.

MANUFACTURING AND INDUSTRIAL CONDITIONS.—Returns for 1898 were made by 100 establishments in the State, but many of these were incomplete. Statistics reported relate to the nature of the industry, character of ownership, number of firm members and stockholders, capital invested, value of products, assessed valuation and estimated true value of plants, amount of production, months in operation during the year, etc.

Of 100 establishments making returns, 58 reported a total capital of $2,201,574 invested in buildings, grounds, and machinery. During 1898 they expended $4,113,030 for raw materials, $563,404 for salaries and wages, and $95,753.79 for repairs, insurance, taxes, and rent, a total expenditure of $4,772,187.79. The total value of the manufactured products was $5,655,169. Of the 58 establishments considered, 25 were owned by corporations, 7 by firms, and 26 by individuals.

LEAD, ZINC, AND OIL.—This part of the report relates to the output and general operations of the lead and zinc plants and oil wells in the State during 1898. Seventy-two lead and zinc plants reported a total output of 165,541,270 pounds of ore, whose total value was $2,347,029. The value of oil and natural gas produced during 1898 was $67,841.44.

WAGE-EARNERS.—The usual investigation was made with regard to the condition of wage-earners. Returns were made by 361 wage-earners, covering nativity, hours of labor, wages, cost of living, etc. The following table shows, by occupations, the more important data presented:

STATISTICS OF WAGE-EARNERS, BY OCCUPATIONS, 1898.

Occupations.	Number reporting.	Number married.	Number single.	Heads of families.	Average dependents per head of family.	Average yearly wages.	Average yearly income from all sources.	Average cost of living.	Number reporting savings.	Number owning homes.	Members of labor organizations.
Barbers	26	23	3	24	3.0	$518.46	$615.23	a$359.96	17	10	24
Brakemen	25	17	8	19	3.0	657.52	662.52	b 536.00	10	6	24
Butchers	16	10	6	10	3.5	473.25	482.62	399.81	5	2	16
Carpenters	21	20	1	20	3.6	522.95	566.00	462.52	12	8	10
Cigar makers	14	9	5	9	4.1	491.78	491.78	397.42	6	3	12
Conductors	18	16	2	16	3.7	1,062.00	1,073.50	844.88	13	10	18
Engineers	21	20	1	21	4.0	1,200.00	1,246.24	837.76	14	15	21
Laborers	25	15	10	17	4.1	289.20	293.88	277.32	7	5	23
Machinists	32	24	8	26	3.2	653.00	684.84	547.22	11	14	13
Other mechanics	45	32	13	34	3.7	612.20	639.35	497.33	17	13	32
Mechanics' helpers	27	16	11	18	4.4	354.25	382.59	339.92	12	8	2
Railroad laborers	19	16	3	17	3.8	763.63	814.00	689.42	9	7	13
Miners	21	19	2	18	3.9	407.66	464.52	408.57	7	8	19
Salt workers	32	23	9	26	3.7	285.62	294.37	280.46	4	3	32
Section foremen	9	8	1	9	5.2	535.66	631.88	504.44	5	4	8
Railroad trackmen	10	9	1	10	4.0	278.50	282.00	289.40	2	4	5
All occupations	361	277	84	294	3.8	567.11	597.91	c 474.72	151	120	272

a Average for 25, one not reporting.
b Average for 24, one not reporting.
c Average for 359, two not reporting.

Of the 361 wage-earners reporting, 277 were married and 84 w single; 294 were heads of families, having an average of 3.8 dep ents per head of family. The average yearly earnings of the 361 w earners were $567.11, and the total income from all sources amou to $597.91 per wage-earner. The average cost of living was $474 Of the wage-earners making returns, 151 reported savings during year; 120 owned their homes; 272 were members of labor organ tions, and 315 were American born.

RAILWAY EMPLOYEES.—Tables are given showing the salaries wages of employees of 7 railway companies doing business in the St

LABOR ORGANIZATIONS.—The following table shows the number membership of labor organizations reporting on December 31, 189

NUMBER AND MEMBERSHIP OF LABOR ORGANIZATIONS, DECEMBER 31, 1898.

Labor organizations.	Local unions or branches.	Me be
Amalgamated Meat Cutters and Butcher Workmen of North America	2	
Amalgamated Sheet Metal Workers' International Association	1	
Brotherhood of Locomotive Engineers	10	
Brotherhood of Railway Trackmen of America	5	
Brotherhood of Railroad Trainmen	3	
Cigar Makers' International Union	4	
Coopers' International Union of North America	1	
Federal Labor Union	1	
International Typographical Union	1	
International Association of Machinists	1	
International Brotherhood of Blacksmiths	1	
Journeymen Barbers' International Union of America	2	
Kansas State Barbers' Association	2	
Knights of Labor	1	
Order of Railway Conductors	8	
Retail Clerks' National Protective Association	1	
Total	44	a1,

a Not including 1 union not reporting.

Returns were received from 44 local unions, 43 of which reported total membership of 1,810 persons. Of the 44 local unions, 39 report an average of 64 per cent of the trade in their localities as being orga ized. Thirty-three local unions reported wages of members rangi from $195 per year, in the case of one butchers' union, to $1,440 p year in the case of a union of locomotive engineers, or an average $822.39 for all unions. Eleven unions reported that they handled total of 71 grievances during 1898, of which 62 were satisfactorily se tled, 4 were compromised, and 5 failed of settlement. The avera age of 36 unions reporting was 8.3 years. Of 41 unions reporting, had schedules or contracts with employers, and 13 had none. Of unions reporting, 15 had sick, out-of-work, or accident funds, a 24 had none. Of 40 unions reporting, 34 had death benefit funds, a 6 had none. Of 43 unions, 30 reported that members were requir to perform Sunday labor. Of 41 unions, 35 reported an increasi and 6 a decreasing tendency in membership and efficiency in orga zation.

STATE SOCIETY OF LABOR AND INDUSTRY.—A review is given of the origin, history, and operation of the State Society of Labor and Industry and its control of the State bureau of labor and industrial statistics according to the provisions of the act approved January 6, 1899.(*a*) A report of the proceedings of the first meeting of this society is also given.

SOCIOLOGY.—This chapter consists of a number of articles written by persons interested in labor questions.

STRIKES.—An account is given of each of four strikes which occurred in the State during the first half of the year 1899.

MICHIGAN.

Sixteenth Annual Report of the Bureau of Labor and Industrial Statistics. 1899. Joseph L. Cox, Commissioner. viii, 360 pp.

The present report, like that for the preceding year, deals with a variety of subjects. Of those relating to labor and industrial conditions the following are the most important: Profit sharing, 12 pages; trade unions, 13 pages; State labor canvass, 28 pages; the soft-coal industry, 15 pages; negroes of Michigan, 8 pages. Other chapters of the report relate to an historical review of the bureau; copies of the acts creating the bureau of labor and regulating factory inspection; reports of the meetings of the National Association of Officials of Bureaus of Labor Statistics and of the International Association of Factory Inspectors; statistics of the police and fire departments, county, city, and village prisons, and State penal institutions; statistics of cities and villages; a description of each of the counties, including statistics of mortgages, interest rates, etc., and statistics of factory inspection.

TRADE UNIONS.—A brief summary is given of each trade union in the State from which returns were received, showing the name, locality, and membership, the wage scales, and other information. Returns from 111 unions showed a total membership of 10,308 persons in 1898. Forty-eight unions reported an increased membership during the year; 95 unions reported steady employment on the part of their members, and 13 reported increased wages. The average wages received by members during the year were $2.14 per day for time work and $2.21 per day for piecework.

STATE LABOR CANVASS.—A canvass was made of 6,878 males and 3,294 females, employed in various parts of the State, regarding their age, nationality, conjugal condition, occupation, wages, length of service, etc. The two following tables show for male and female employees, respectively, for selected occupations, the average daily

a For a copy of this act see Bulletin No. 22, pages 496–498.

wages, average number of months employed during the year and the average number of years engaged in the present occupa

DAILY WAGES OF MALE EMPLOYEES AND MONTHS EMPLOYED DURING 18 SELECTED OCCUPATIONS.

Occupations.	Number.	Average daily wages.	Average months employed during the year.	Average years at present occupation.	Occupations.	Number.	Average daily wages.	Average months employed during the year.
Barbers	16	$1.46	12.0	10.6	Metal polishers	45	$1.61	9.9
Bicycle works employees	15	1.44	9.7	6.0	Millers	28	1.93	12.0
Blacksmiths	248	1.92	11.3	10.9	Molders	95	1.97	10.1
Blacksmiths' helpers	102	1.40	2.2	7.4	Painters	309	1.56	10.1
Boiler makers	47	2.25	9.5	10.8	Paper mill employees	23	1.29	10.6
Brass workers	76	1.67	9.9	5.6	Pattern makers	20	2.34	10.5
Brewery employees	28	1.76	12.0	9.5	Plumbers	20	2.17	10.9
Butchers and meat cutters	29	1.57	11.6	8.5	Printers	71	1.98	10.7
Car repairers	24	1.45	11.0	9.7	Stenographers	7	1.63	11.7
Carriage and wagon makers	408	1.59	10.4	11.1	Stone and brick masons	28	2.43	7.3
Cigar makers	126	2.07	9.2	12.0	Stone and marble cutters	27	1.95	8.5
Electricians	28	1.80	11.2	6.2	Street car employees	57	1.55	12.0
Engineers	111	1.96	11.4	16.5	Tailors	32	2.41	10.3
Firemen	38	1.34	11.5	6.2	Tannery employees	14	1.41	11.5
Iron workers	229	1.56	9.8	8.5	Teamsters	136	1.38	11.6
Laborers	1,278	1.20	9.7	14.1	Tinners	49	1.88	10.7
Laundry employees	9	1.60	12.0	6.3	Wood workers	492	1.42	9.9
Machinists	217	2.06	10.9	15.0	Woolen mill employees	13	1.83	10.2

DAILY WAGES OF FEMALE EMPLOYEES AND MONTHS EMPLOYED DURING 1898, SELECTED OCCUPATIONS.

Occupations.	Number.	Average daily wages.	Average months employed during the year.	Average years at present occupation.	Occupations.	Number.	Average daily wages.	Average months employed during the year.
Bakery employees	31	$0.66	12.0	2.0	Milliners	134	$1.24	9.1
Bean sorters	103	.47½	7.8	3.3	Paper-box makers	58	.59	11.7
Bookbindery employees	22	.62	10.7	2.4	Paper mill employees	62	.68	10.9
Card factory employees	55	.70	10.7	2.8	Printing office employees	38	.77	11.5
Cash girls	15	.31	(a)	.5	Saleswomen	348	.80	11.4
Cigar factory employees	76	.62	11.0	2.1	Seamstresses	12	.80	8.9
Corset factory employees	140	.85½	10.9	4.0	Silk mill employees	82	.74	9.1
Domestics	77	.46	11.0	6.0	Shirt makers	42	.93	10.3
Dressmakers	101	.91½	10.6	9.2	Stenographers	218	1.26	10.0
Dress-stay makers	43	.91	12.0	5.3	Straw workers	12	1.14	8.2
Hat factory employees	20	1.17	7.4	4.0	Tailoresses	86	1.01	9.4
Knitting factory employees	126	.74	11.0	2.8	Telephone operators	50	.67½	11.3
Laundry employees	139	.91	11.1	4.4	Woolen factory employees	35	.81	11.3

a Full time.

The returns for all of the 6,878 male employees canvassed showed the following average results: Daily wages, $1.53; months employed during the year, 10.2; years engaged at present occupation, 10.8; age, 32 years. Ninety-seven per cent had employment at the time of the canvass; 56 per cent were married, 42½ per cent were single, and 1½ per cent were widowed. The 6,878 male employees had 17,948 dependents, or 2.6 per person canvassed. Twenty-seven per cent owned their homes.

Returns for 3,294 female employees canvassed showed the following average results: Daily wages, $0.84; months employed during the year, 10.4; years engaged at present occupation, 3.8; age, 24 years. Ten per cent were married, 6 per cent were widowed, and 84 per cent were single. The 3,294 female employees had 4,249 dependents, or 1.3 per person canvassed. Four per cent owned their homes.

SOFT-COAL INDUSTRY.—This chapter consists of extracts from a report on the soft-coal industry of Michigan, and contains a brief account of the location of the coal fields and of the operations of the various coal-mining enterprises in the State.

RECENT FOREIGN STATISTICAL PUBLICATIONS.

GREAT BRITAIN.

Report on the Strikes and Lockouts of 1898 in the United Kingdom. 1899. xcv, 119 pp. (Published by the Labor Department of the British Board of Trade.)

The present report of the chief labor correspondent of the Labor Department of the British Board of Trade is the eleventh issued since the commencement of the series in 1888. The greater part of the volume is devoted to a detailed statement showing for each dispute beginning in 1898, the locality, the number of establishments, the number and occupations of working people affected, the cause or object of the dispute, the date of beginning and ending, and the result. These tables are preceded by an analysis of the statistics of strikes and lockouts, comparative data for recent years, and summary tables. The general plan of this presentation is very nearly the same as in the preceding years, except that in the analysis and the summary tables a distinction is made between persons directly and those indirectly affected by the strikes and lockouts. A special section of the report is devoted to conciliation and arbitration, and appendixes contain the text of certain agreements terminating trade disputes, and also specimen forms of inquiry.

The report for 1898 shows an increase in the number of persons affected and working days lost on account of strikes and lockouts, as compared with 1896 and 1897, although the number of disputes in 1898 was smaller than during any of the 4 preceding years. This is shown in the following table:

STATISTICS OF STRIKES AND LOCKOUTS, 1894 TO 1898.

Year.	Strikes and lockouts.	Persons affected.			Aggregate working days lost by all persons affected. (a)
		Strikers and persons locked out.	Others thrown out of employment.	Total.	
1894	929	257,314	67,934	325,248	9,529,010
1895	745	207,239	55,884	263,123	5,724,670
1896	926	147,950	50,240	198,190	3,746,368
1897	864	167,453	62,814	230,267	10,345,523
1898	711	200,769	53,138	253,907	15,289,478

a For strikes and lockouts ending in each year shown, including those that may have begun in the year preceding.

There were 711 disputes in 1898, affecting 253,907 persons, of whom 200,769 were actual participants as strikers or persons locked out and 53,138 were otherwise thrown out of employment on account of the disputes.

The following table shows, by causes, the number of persons directly affected by disputes beginning in 1896, 1897, and 1898:

STRIKERS AND PERSONS LOCKED OUT, BY CAUSES, 1896 TO 1898.

Cause or object.	Strikers and persons locked out in disputes beginning in—					
	1896.		1897.		1898.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Wages	95,975	64.9	73,906	44.1	176,392	87.9
Hours of labor	2,355	1.6	39,227	23.4	777	.4
Employment of particular classes of persons	22,745	15.4	14,840	8.9	9,203	4.6
Working arrangements, rules, and discipline	17,533	11.8	29,068	17.4	11,742	5.8
Trade unionism	5,279	3.6	6,327	3.8	2,215	1.1
Other causes	4,063	2.7	4,085	2.4	440	.2
Total	147,950	100.0	167,453	100.0	200,769	100.0

While the most prevalent causes of strikes and lockouts in each of the years mentioned were those relating to wages, the number of persons engaged in disputes due to these causes was much greater in 1898 than in either of the two preceding years. Out of a total of 200,769 persons directly engaged in disputes from all causes, 176,392, or 87.9 per cent, were involved in wage disputes, as compared with 44.1 per cent in 1897 and 64.9 per cent in 1896. These wage disputes were very largely due to demands for advances. Only 777 working people, or 0.4 per cent of the entire number, were engaged in disputes in 1898 on account of hours of labor.

The following table shows the number of working people directly engaged in strikes and lockouts in 1898, classified according to the principal cause and the results obtained:

STRIKERS AND PERSONS LOCKED OUT, BY CAUSES AND RESULTS, AND WORKING DAYS LOST, 1898.

Cause or object.	Strikes and lockouts.	Strikers and persons locked out in disputes, the results of which were—				Total strikers and persons locked out.	Aggregate working days lost by all persons affected. (a)
		In favor of employees.	In favor of employers.	Compromised.	Indefinite or unsettled.		
Wages	449	40,823	109,674	25,791	104	176,392	13,464,498
Hours of labor	19	289	358	130	.....	777	1,139,736
Employment of particular classes of persons	87	1,443	5,359	2,401	.....	9,203	220,755
Working arrangements, rules, and discipline	94	1,889	3,988	5,865	.....	11,742	406,995
Trade unionism	51	798	1,134	276	7	2,215	33,094
Sympathetic disputes	8	248	59	88	.....	345	17,368
Miscellaneous	3	.....	95	.....	.....	95	7,037
Total	711	45,490	120,667	34,501	111	200,769	15,289,478

a For strikes and lockouts ending in 1898, including those that may have begun in 1897.

The above table shows that in 1898 the balance of advantage of t results of the disputes was largely on the side of the employe 120,667, or 60.10 per cent, of the working people having engaged disputes settled entirely in favor of the employers, and only 45,4 or 22.66 per cent, in disputes settled wholly in favor of the employe In the cases of 34,501, or 17.18 per cent, of the strikers and perso locked out, the disputes were compromised. In the remaining cas the results of the disputes were indefinite or unsettled at the close the year.

The statistics of the 711 disputes in 1898 were largely dominated b a single strike in the coal mining industry, which involved 100,0 strikers and caused a loss of more than 11,500,000 working day This strike, which was due to a wage dispute, resulted in favor of t employers. The extent to which each of the various groups industries were involved in the strikes and lockouts in 1898 is show in the following table:

STRIKERS AND PERSONS LOCKED OUT, BY INDUSTRIES AND RESULTS, AND WORKI DAYS LOST, 1898.

Industries.	Strikes and lockouts.	Strikers and persons locked out in disputes, the results of which were—				Total strikers and persons locked out.	Aggregat working days lost all person affected (a)
		In favor of employees.	In favor of employers.	Compromised.	Indefinite or unsettled.		
Building	183	5,869	1,363	6,993	7	14,232	379,1
Mining and quarrying	129	30,034	104,981	12,278	104	147,397	12,876,3
Metal, engineering, and shipbuilding	152	4,689	5,082	5,384	.....	15,105	1,370,7
Textile	99	2,883	5,549	3,274	.....	11,706	273,5
Clothing	53	599	874	1,418	.....	2,891	69,9
Transportation	22	230	1,475	1,639	.....	3,344	46,7
Miscellaneous	67	1,075	1,090	3,445	.....	5,610	267,7
Employees of local authorities	6	111	303	70	.....	484	5,2
Total	711	45,490	120,667	34,501	111	200,769	15,289,4

a For strikes and lockouts ending in 1898, including those that may have begun in 1897.

The group of mining and quarrying in the above table shows th largest number of persons directly engaged in strikes and lockouts namely, 147,397, or 73.4 per cent of all, causing a total loss of 12,876,33 working days. Next in importance, with regard to the number o persons engaged and time lost, were the groups of metal, engineering and shipbuilding, the building trades, and the textiles, respectively.

As in previous years, the strikers and persons locked out were mostly engaged in a few large disputes. In the following table the strikes and lockouts beginning in 1898 are grouped according to the total number of persons directly and indirectly affected:

PERSONS AFFECTED BY STRIKES AND LOCKOUTS, AND WORKING DAYS LOST, BY GROUPS, 1898.

[Persons affected means all persons thrown out of work.]

Groups.	Strikes and lockouts.	Persons affected.		Working days lost.	
		Number.	Per cent.	Number.	Per cent.
5,000 persons and upward	3	130,100	51.2	11,716,300	83.1
2,500 and under 5,000					
1,000 and under 2,500	26	34,389	13.6	683,303	4.9
500 and under 1,000	42	30,533	12.0	644,464	4.6
250 and under 500	76	25,957	10.2	470,354	3.3
100 and under 250	103	15,706	6.2	244,598	1.7
50 and under 100	129	9,056	3.6	192,732	1.4
25 and under 50	154	5,437	2.1	96,012	.7
Under 25 (a)	178	2,729	1.1	48,586	.3
Total	711	253,907	100.0	b 14,096,349	100.0

a Disputes involving less than 10 persons, and those which lasted less than 1 day, have been omitted, except when the aggregate duration exceeded 100 working days.
b These figures differ somewhat from those given in the preceding tables as the aggregate days lost during 1898, since they exclude the days lost in 1898 through disputes in progress at the beginning of the year and include those lost in 1899 through disputes which began in 1898.

According to the above table, three large disputes accounted for over one-half of all persons affected by strikes and lockouts in 1898. On the other hand, 461 strikes and lockouts, or considerably over one-half of the entire number, involved less than 100 persons each, or but 6.8 per cent of all persons directly or indirectly affected by strikes and lockouts.

In the following table the disputes beginning in 1896, 1897, and 1898 are classified according to the various methods of settlement:

PERSONS AFFECTED BY STRIKES AND LOCKOUTS BEGINNING IN 1896, 1897, AND 1898, BY METHOD OF SETTLEMENT.

[Persons affected means all persons thrown out of work.]

Method of settlement.	1896.		1897.		1898.	
	Strikes and lockouts.	Persons affected.	Strikes and lockouts.	Persons affected.	Strikes and lockouts.	Persons affected.
Arbitration	19	10,276	14	9,756	14	3,390
Conciliation and mediation	26	9,935	27	9,544	29	16,127
Direct negotiation or arrangement between the parties	637	136,844	624	187,048	495	206,926
Submission of working people	114	30,587	76	15,207	71	17,590
Replacement of working people	107	7,250	105	4,307	96	9,616
Closing of works	19	3,159	7	1,673		
Indefinite or unsettled	4	139	11	2,732	6	258
Total	926	198,190	864	230,267	711	253,907

The method most generally adopted for settling disputes in 1898, as in previous years, has been by direct negotiation of the parties concerned or their agents, 495 disputes, affecting 206,926 persons, being settled in this way. Forty-three disputes, affecting 19,517 persons, were settled by arbitration, conciliation, and mediation, and 167 disputes, involving 27,206 persons, resulted in the submission of the working people or their replacement by others. In the 6 remaining strikes, involving 258 persons, the methods of settlement were indefinite or the strikes remained unsettled at the close of the year.

Of the 43 strikes and lockouts which were settled by arbitration a conciliation, 7 disputes, affecting 3,611 persons, were settled accordi to the provisions of the conciliation act of 1896; 19 disputes, affecti 12,729 persons, by trade boards; 16 disputes, affecting 3,149 perso by individuals, and 1 dispute, affecting 28 persons, by a federation trade unions.

Provision for Old Age by Government Action in Certain Europe Countries. 1899. 59 pp. (Published by the Labor Department the British Board of Trade.)

This publication consists of a series of memoranda describing t provisions made for old age by government action in certain Europe countries. The information was compiled from various reports a documents, supplemented by data obtained from the British Gove ment's foreign representatives.

Of 11 countries considered in this report only 2, Germany a Denmark, have adopted a general system of pensions or relief for c age. In Germany there is a general system of compulsory insuran against old age and invalidity. In 1897 over 400,000 pensioners dr pensions amounting to £2,750,531 ($13,385,459), of which £1,079,8 ($5,254,959) were provided by the State.

In Denmark provision is made for old age relief to needy perso of good character, the expense of which is borne partly by the Sta and partly by the communes. In 1896, 36,246 persons with 14,2 dependents received such pensions at a total cost of £216,317 ($1,052,70 during that year.

In France provision for old age is obligatory in the case of seam and miners. The Government contributes £440,000 ($2,141,260) p annum to the seamen's pension fund, subsidizes pension funds friendly societies, and makes other grants, amounting to an aggrega of probably not less than £600,000 ($2,919,900) per year.

In Belgium the Government and certain provincial authorities mal grants to friendly societies to encourage subscriptions to the gener savings and retirement fund (*Caisse Générale d'Epargne et de Retrait* and in some districts mine owners are compelled to subscribe to retir ment funds for former mine employees.

In Austria provision is made for the compulsory old-age insuran of mine employees, and in Russia old-age insurance extends only Government mining establishments. In Roumania provision is ma for compulsory insurance in mines and quarries, but no enterprises which the law applies have yet been started. No legislation has bee enacted in Sweden, Norway, or Holland for the establishment encouragement of old-age pension funds. In Italy a law was passe in 1898 establishing a national pension fund, but it had not becon *operative at the time* of the publication of this report.

ONTARIO.

Seventeenth Annual Report of the Bureau of Industries for the Province of Ontario, 1898. vii, 128 pp. (Published by the Ontario Department of Agriculture.)

This report comprises the following subjects: Weather and crops, 66 pages; live stock, the dairy, and the apiary, 20 pages; values, rents, and farm wages, 38 pages; chattel mortgages, 3 pages; municipal statistics, 144 pages.

VALUES, RENTS, AND FARM WAGES.—The total value of farm property reported in 1898 was $923,022,420, of which $556,246,569 represents land, $210,054,396 buildings, $52,977,232 implements, and $103,744,223 live stock. For the first time since 1892 an increase is shown in the total value of farm property, there having been a steady decline from 1892 to 1897.

There was likewise a change for the better in the price of farm labor. Farm hands with board received in 1898 an average of $148 per year, an increase of $4 over 1897. Farm hands without board received an average of $246 in 1898, or $10 more than the preceding year. The average monthly rate of wages during the working season was $15.31, with board, in 1898, or $1.02 more than in 1897. The average monthly rate without board was $25.44 in 1898, or 97 cents more than in 1897. The monthly wages with board received by domestic servants increased from $5.97 in 1897 to $6.09 in 1898.

CHATTEL MORTGAGES.—During the year ending December 31, 1898, there were on record 19,809 chattel mortgages, representing $12,282,217. This shows a decrease, both in number and in amount, when compared with the preceding year. Of the chattel mortgages in 1898, 10,631, representing $3,580,497, were registered against farmers.

DECISIONS OF COURTS AFFECTING LABOR.

[This subject, begun in Bulletin No. 2, has been continued in successive issu
All material parts of the decisions are reproduced in the words of the courts, in
cated when short by quotation marks and when long by being printed solid.
order to save space, immaterial matter, needed simply by way of explanation,
given in the words of the editorial reviser.]

DECISIONS UNDER STATUTORY LAW.

CONSTITUTIONALITY OF STATUTE CHANGING FELLOW-SERVANT RUI IN CASE OF RAILROAD EMPLOYEES—*Tullis v. Lake Erie and Weste Railroad Co., 20 Supreme Court Reporter, page 136.*—Action wa brought by Hosea B. Tullis against the above-named railroad com pany to recover damages for an injury suffered while in the emplo of said company. In an inferior United States court a judgment wa rendered in favor of the defendant company and the plaintiff, Tulli appealed the case to the United States circuit court of appeals for th seventh circuit. The case turned upon the validity of an act approve March 4, 1893, and now included in sections 7083 to 7087 of Burn Annotated Statutes of Indiana, Revision of 1894, which changed th common-law rule as to fellow-servants as regards railroad companie and rendered them liable for injuries of employees caused by the neg ligence of fellow-servants in certain specified cases. After a hearin the court of appeals decided that material error was committed at th hearing in the lower court for which its judgment should be reverse if the sections, above referred to, were constitutional and valid, bu that if said sections were invalid the judgment should be affirmed Upon the question as to the constitutionality of these sections th court of appeals certified the case to the Supreme Court of the Unite States, which rendered its decision December 11, 1899, and affirme their constitutionality.

The opinion of the court was delivered by Chief Justice Fuller, and the following is quoted therefrom:

The contention is that the act referred to is in conflict with the Fourteenth Amendment [to the Constitution of the United States] because it denies the equal protection of the laws to the corporations to which it is applicable.

In Pittsburg, C., C. & St. L. R. Co. *v.* Montgomery, 152 Ind. 1, 49 N. E., 582, the statute in question was held valid as to railroad companies, and it was also held that objection to its validity could not be made by such companies, on the ground that it embraced all corpo-

rations except municipal, and that there were some corporations whose business would not bring them within the reason of the classification. In announcing the latter conclusion the court ruled in effect that the act was capable of severance; that its relation to railroad corporations was not essentially and inseparably connected in substance with its relation to other corporations; and that, therefore, whether it was constitutional or not as to other corporations, it might be sustained as to railroad corporations.

Considering this statute as applying to railroad corporations only, we think it can not be regarded as in conflict with the Fourteenth Amendment.

The court at this point referred to several decisions declaring similar statutes of several States to be valid and then continued in part as follows:

By reason of the particular phraseology of the act under consideration it is earnestly contended that the decisions sustaining the validity of the statutes of Kansas, Iowa, and Ohio are not in point, and that this statute of Indiana classified railroad companies arbitrarily by name and not with regard to the nature of the business in which they were engaged, but the supreme court of the State in the case cited has held otherwise as to the proper interpretation of the act, and has treated it as practically the same as the statutes of the States referred to.

As remarked in Missouri, K. & T. R. Co. *v.* McCann, 174 U. S., 580, 586, 43 L. ed., 1093, 1096, 19 Sup. Ct. Rep., 755, the contention calls on this court to disregard the interpretation given to a State statute by the court of last resort of the State, and, by an adverse construction, to decide that the State law is repugnant to the Constitution of the United States. "But the elementary rule is that this court accepts the interpretation of a statute of a State affixed to it by the court of last resort thereof."

This being an action brought by Tullis to recover damages for an injury suffered while in the employment of the railroad company, caused by the negligent act of a fellow-servant, for which the company was alleged to be responsible by force of the act, we answer the question propounded that the statute as construed and applied by the supreme court of Indiana is not invalid and does not violate the Fourteenth Amendment to the Constitution of the United States.

CONSTITUTIONALITY OF STATUTE—DEATH OF MINE EMPLOYEE—WHO MAY MAINTAIN ACTION FOR DAMAGES—*Maule Coal Co. v. Partenheimer, 55 Northeastern Reporter, page 751.*—Action was brought by John Partenheimer as administrator of the estate of Robert Poneleit, deceased, to recover damages for the death of his decedent, caused by the alleged negligence of the above-named coal company, which was made the defendant in the suit. At the time of his death, Poneleit was in the employ of the coal company in the capacity of a blacksmith about its mine. He was killed by an explosion of gas in the mine. In the circuit court of Gibson County, Ind., a judgment was rendered in favor of the plaintiff and the defendant appealed the

case to the supreme court of the State. The defendant claimed th the case came within and was governed by the provisions of an a of the legislature pertaining to coal mines, approved March 2, 18 (Acts 1891, p. 57, Burns' Rev. St., 1894, § 7461 et seq.), and th the right of action which the plaintiff sought to enforce was lodg by the legislature in the particular persons designated in section 13 said act (§ 7473, Burns' Rev. St., 1894) and not in the administrat of the estate of the deceased, by whom the action had been brougl The section referred to reads as follows:

For any injury to person or persons or property occasioned by a violation of this act, or any willful failure to comply with any of i provisions, a right of action against the owner, operator, agent or less shall accrue to the party injured for the direct injury sustained thereb and in case of loss of life by reason of such violation, a right of acti shall accrue to widow, children, or adopted children, or to the paren or parent, or to any other person or persons who were before such lo of life dependent for support on the person or persons so killed, f like recovery for damages for the injury sustained by reason of su loss of life or lives.

The plaintiff, in reply, insisted that said section could not be co sidered as controlling in the case for the reason that when the law which it forms a part is tested by section 19, art. 4, of the State co stitution, it must be held invalid. Said section of the constitutio provides in part that "Every act shall embrace but one subject an matters properly connected therewith; which subject shall be expresse in the title." The plaintiff claimed that this constitutional provisio was violated by the statute in question in two respects: First, that embraced more than one principal subject; second, that there was n general subject expressed in the title of the act. It was further claime by the plaintiff that if said statute was invalid that the action was right fully brought by the administrator under the provisions of section 28 of Burns' Rev. St., 1894, which empowers the personal representativ to maintain an action for damages where the death of his decedent ha been caused by the wrongful act of another. The supreme court ren dered its decision December 13, 1899, and sustained the claim of th defendant company, holding that the statute relating to coal minin was constitutional and valid and that in consequence the action shoul have been brought by the widow or children of the deceased and not b his administrator, and the judgment of the circuit court was reversed

The opinion of the supreme court was delivered by Judge Jordan and from the same the following is quoted:

The title of the act in dispute is as follows: "An act regulating th weighing of coal, providing for the safety of employees, protecting persons and property injured, providing for the proper ventilation o mines, prohibiting boys and females from working in mines, conflict ing acts repealed, and providing penalties for violation." The statute is divided into some 24 sections, some of which * * * regulate

the weighing of coal delivered from any coal mine in this State operated by any owner, agent, or lessee of such mine, while others pertain to the manner in which the mine shall be supported in order to protect persons working therein, and others provide for the proper ventilation of the mine so as to keep it at all times free from "standing gas," and also provide for or designate means by which the proper ventilation of a coal mine may be secured, and further provide that a competent mining boss shall be employed, who shall keep a careful watch over the ventilating apparatuses and air-ways of the mine, etc. An inspection of the statute clearly discloses that the general subject covered by the legislation therein is one concerning or relating to coal mines, and that the part thereof which vests the right of action for a recovery of damages arising out of the death of a person caused by the violation of any of its provisions, or willful failure to comply therewith, upon the part of the owner, operator, agent, or lessee, in the widow or children of the deceased, or other persons, in the order named in the section in question, is incidental or auxiliary to the principal subject upon which the legislation is had, and consequently is a matter properly connected therewith. We conclude, therefore, that the title is sufficient, and that the act does not embrace a plurality of subjects, and is not open to the constitutional objections urged by counsel for appellee.

In view of the plain purpose of the statute, and in obedience to the rule well affirmed by the authorities, we can see no escape from holding that this action, under the facts, falls within the terms of the act in controversy, and that the surviving widow of the deceased, and not his administrator, is the proper person to sue for damages resulting from his death; and we are constrained to conclude that appellee [the administrator] can have no standing in court to maintain this action.

CONSTITUTIONALITY OF STATUTE—TRUCK SYSTEM, ETC.—*Luman, clerk, v. Hitchens Bros. Co., 44 Atlantic Reporter, page 1051.*—This case was heard by the court of appeals of Maryland on an appeal from the circuit court of Allegany County, of that State. It was a hearing upon a petition by the above-named company against one Theodore Luman for a writ of mandamus. The decision of the court of appeals was rendered November 23, 1899.

The facts of the case, so far as given, appear in the following, quoted from the opinion of the court, which was delivered by Chief Justice McSherry:

The proceedings in this case are designed to test the constitutionality of chapter 493 of the acts of the general assembly of this State, passed at the January session of 1898. The title of the statute is in these words: "An act to prohibit railroad and mining corporations, their officers and agents, from selling or bartering goods, wares or merchandise in Allegany County to their employees."

The appellee is a trading corporation. One of its stockholders is a director in the Barton and George's Creek Coal Company, a mining corporation of Allegany County. By the general laws of the State, before a person or a corporation can lawfully conduct a merchandising

business in any county, a trader's license must be procured from t clerk of the circuit court. In the latter part of April, 1899, appli tion was made by the appellee to the appellant, who is the clerk of t circuit court for Allegany County, for a trader's license. The cle refused to issue the license unless the oath [to the effect that no offic of any railroad or mining corporation has any interest in the store business or in the profits thereof, proposed to be carried on under t license] prescribed by the second section of the act now under revie was first taken by some officer of the appellee corporation, but t treasurer of the appellee refused to make the oath, because one the stockholders of the Hitchens Bros. Company was a director in mining corporation. Thereupon the clerk declined to issue the licen applied for by the appellee, and the latter filed in the circuit court petition praying that a mandamus might go out directing the clerk issue the license. Ultimately a pro forma order was passed requiri the clerk to deliver the license, and from that order this appeal h been taken.

The validity of the statute has been assailed upon a number grounds, some of which will now be considered. The title declar that the act is an act to prohibit railroad and mining corporation their officers and agents, from selling goods, wares, and merchandi to their employees; whereas the body of the act makes it unlawful n only for a railroad and mining corporation to sell or barter any good wares, or merchandise, but for any president, vice president, manage superintendent, director, or other officer of such corporations to ow or have any interest whatever in any store or merchandise business i Allegany County, without the slightest reference to whether sales a made to the employees of railroad or mining corporations or no There are two things prohibited in the body of the act under a titl indicating a purpose to prohibit but one thing, and that one thing is wholly different thing from the two which are prohibited. The titl relates to sales to employees; the body of the act prohibits railroa and mining corporations from selling at all; and it also, without qual fication, prohibits the designated officers from having any interest i any store, and from selling to any person any goods, wares, or mer chandise in the county. The title indicates that the act is designed t provide a restricted prohibition, while the body of the act declares a unrestricted prohibition. A provision forbidding a sale to employee is widely different from, because much narrower than, a provisio forbidding a sale to any one. Though the title need not contain a abstract of the bill, nor give in detail the provisions of the act, it mus not be misleading by apparently limiting the enactment to a muc narrower scope than the body of the act is made to compass; nor mus there be cloaked in the enactment any foreign, discordant, or irrele vant matter not disclosed in the title. The act goes far beyond th purpose declared in its title, and in this respect disregards the provi sions of section 29, art. 3, of the constitution of Maryland, whic declares "that every law enacted by the general assembly shall embrac but one subject, and that shall be described in its title."

But we need not pursue this discussion further, because there i another objection equally apparent and equally fatal to the act, and tha objection is founded on the Fourteenth Amendment to the Constitution of the United States. Section 1 of the amendment guaranties the

equal protection of the laws to all persons alike. It applies to corporations as well as to individuals. A statute which denies to one person the protection that is accorded to others under the same conditions, and in the like situation, or which imposes on one a burden not similarly borne by others, is, because it so discriminates, in both instances invalid under the paramount organic law. Though it was perfectly competent to the legislature to prevent railroad and mining corporations from engaging in the business of bartering or selling goods, wares, and merchandise, either by not conferring such a power upon them in their charters, or, if it had been conferred, then by subsequently amending the charters, and imposing the restriction by such an amendment, yet it was obviously not within the power of the general assembly to deny to particular individuals who happened to be officers of those corporations, and merely because they were such officers, the right which every other citizen of the county, whether an officer of other corporations or not, possessed to sell goods, wares, and merchandise within the county. While the legislature may, under conditions, create classes, and subject all persons coming within the classifications to burdens or duties not imposed upon individuals outside of the classes, these classifications must not be arbitrary or unreasonable, but must rest upon some difference which bears a reasonable and just relation to the act in respect to which the classification is proposed. It may not single out the directors of one corporation, and, solely because they are such directors, prohibit them from engaging in some other business open to the directors of all other corporations, any more than it can by a general enactment, not passed in the exercise of the police power, burden one corporation with a liability from which other corporations of the same kind, under precisely similar circumstances, are relieved.

The reasons we have given are quite sufficient, without assigning any others, to show that the legislation embodied in the act of 1898, which is now before us, is absolutely void.

EMPLOYERS' LIABILITY—DUTIES OF THE MASTER—CONSTRUCTION OF STATUTE—*Mosgrove v. Zimbleman Coal Co., 81 Northwestern Reporter, page 227.*—Action was brought against the above-named coal company by one Mosgrove to recover damages for breathing bad air in its coal mine. After a hearing in the district court of Boone County, Iowa, a judgment was rendered for the plaintiff and the defendant appealed the case to the supreme court of the State, which rendered its decision December 16, 1899, and affirmed the judgment of the lower court.

The facts in the case are sufficiently given in the following, which is quoted from the opinion of the supreme court as delivered by Judge Ladd:

The plaintiff, an experienced miner, entered the coal mine of the defendant December 3, 1897. After passing to his room, he had removed a few shovels of mining dirt, and, when reaching to draw out some loose dirt with his hand, gas struck him. He thus described the occurrence: "It just seemed to draw me right up—took me right in

there. I was gobbled close up to the coal face. The coal broke loo I had a little trouble, and I fell over. Got up again, and went into the road. My light was out, and I got about half up, and again. Then I crawled. The gas put my light out. Crawled out the main entrance." After resting there a few minutes, he walked the shaft, and left the mine. The evidence tended to show that air in the mine was thick, and so filled with noxious gases that lights either went out, or would not blaze up over halfway.

The mine owner was bound, in the first instance, to furnish a reas ably safe place in which to work, and then to exercise ordinary c in so keeping it; and, in a coal mine, where noxious or poisonous ga are likely to be, supplying air that may be safely inhaled into the lu is of the utmost importance. The duty of forcing in a sufficient amo of air, and so circulating it as to dilute and render harmless or ex the gases, devolved upon the proprietor, and, in the absence of kno edge to the contrary, the employee had the right to assume that t had been done.

If there were any doubt concerning this proposition, it is settled section 2488 of the Code, which reads:

"The owner or person in charge of any mine shall provide a maintain, whether the mine be operated by shaft, slope or drift, amount of ventilation of not less than one hundred cubic feet of per minute for each person, nor less than five hundred cubic feet air per minute for each mule or horse employed therein, which sh be so circulated throughout the mines as to dilute, render harmless a expel all noxious and poisonous gases in all working parts of the sam to do this, artificial means by exhaust-steam, forcing-fans, furnac or other contrivances of sufficient capacity and power, shall be kept operation. If a furnace is used, it shall be so constructed by lini the up-cast for a sufficient distance with incombustible material, th fire can not be communicated to any part of the works. When t mine inspector shall find the air insufficient, or the men working und unsafe conditions, he shall at once give notice to the mine owner his agent or person in charge, and, upon failure to make the necessa changes within a reasonable time, to be fixed by him, he may order t men out, to remain out until the mine is put in proper condition."

It will be observed that the particular appliances to be used are n specified, but that the result to be attained is clearly defined. Nor the volume of ventilation limited. Before the proprietor has di charged his duty, regardless of the contrivances employed, or t amount of ventilation, the gases must be rendered harmless by bein diluted or expelled. This is the plain import of the statute, and emphasized by the clause authorizing the mine inspector to order t men out when the air is insufficient. The presence of gases in suc mines is recognized, and the purpose of the law is to guard mine against injury therefrom. True, no penalties are provided for viol tion of this statute, save after notice from the inspector. Neverthele it defines certain specific duties, a failure to discharge which by tho operating a mine, in the absence of any excuse, constitutes negligenc Every person, while violating an express statute, is a wrongdoer, is e necessitate negligent in the eyes of the law; and an innocent perso within its protection, injured thereby, is entitled to civil remedy b way of damages.

EMPLOYERS' LIABILITY—RAILROAD COMPANIES—ASSUMPTION OF RISK BY EMPLOYEES—CONSTRUCTION OF STATUTE—*Quinn v. New York, New Haven and Hartford Railroad Co., 55 Northeastern Reporter, page 891.*—In a suit brought by Daniel Quinn against the above-named railroad company to recover damages for personal injuries a ruling in favor of the plaintiff, Quinn, was made in the superior court of Suffolk County, Mass., and upon this ruling the case was submitted to the supreme court of the State, judgment to be entered for the plaintiff if said court decided said ruling to be correct and for the defendant if it did not sustain the ruling. The decision of the supreme court was rendered January 4, 1900, reversing the ruling and judgment was accordingly entered for the defendant.

The opinion of the court was delivered by Chief Justice Holmes, and the syllabus of the same reads as follows:

1. Plaintiff, while in defendant's employ as brakeman, was sitting on top of a fruit car, when his head struck the cornice of a roof over a station platform. He knew that the car was larger than the ordinary cars; that this roof was not very far from the cars; that there was danger from it; and that he was then approaching it. In his application for employment he undertook, as soon as possible, to make a careful examination of all things near to the tracks, so that he might understand the dangers attending them. *Held*, that plaintiff had assumed the risk of the injury in question.

2. An application for employment, by which the servant undertook to make a careful examination of all things near the tracks, so that he might understand the dangers attending them, is not contrary to Pub. St., c. 74, § 3, which provides that no person or corporation can, by special contract with their employees, become exempt from its liabilities to them for injuries suffered by them in their employment which result from the employer's own negligence, or that of any other person in its employ.

3. It is not necessary to maintain a guard at a cornice of a roof over a station platform which is 1 foot 5 inches from the nearest line of the outside rail, since Pub. St., c. 112, § 160, requires such guard only where some portion of such structure "crosses" the railroad.

MINERS' LABOR LIENS—ENFORCEMENT OF SAME BY ASSIGNEES—LIABILITY OF LESSOR FOR LIENS OF EMPLOYEES OF LESSEE—*Mitchell v. Burwell et al., 81 Northwestern Reporter, page 193.*—This was an action in equity to recover sums alleged to be due to the plaintiff for mining coal and other labor performed by himself and his assignors, and for penalties, attorney's fees, and costs, and to have established and enforced against the land in which the mining was done, improvements thereon, and personal property used in operating the mine, a lien for the amount due, and for general equitable relief. The evidence showed that one Mary Burwell owned 80 acres of land in Boone County, Iowa, on which was a coal mine; that she leased the

same to one B. J. Mallory for the term of 5 years; that the lease p vided that "new machinery and improvements and iron tracking t may be added by the second party (Mallory) shall not be remov until first party has had an opportunity and reasonable time to purch the same. If first party refuses to purchase the same, then seco party may remove said improvements without further notice;" t Mallory entered into possession of the premises under his lease, a improved and worked the mine; that in 1897 he transferred the le to the Eclipse Coal Company; that the lease was abandoned by M lory and the coal company in January, 1898; that the plaintiff a others performed labor in and about the mine in December, 1897, a January, 1898, for which they had not been paid; that the defend Mary Burwell denied the right of the plaintiff to a lien, either on t mine, owned by her, or on the improvements, made by Mallory a the company and left in the mine upon the abandonment of the lea and claimed that royalties were due her by virtue of the lease when was abandoned, and that her claim therefor was superior to any li to which the plaintiff was entitled. In the district court of Boo County, Iowa, in which the case was heard, a decree for the plaint issued and no relief was given to Mary Burwell. The defendants, Ma Burwell and A. O. Burwell, appealed the case to the supreme court the State which rendered its decision December 15, 1899, and affirm the action of the lower court.

Chief Justice Robinson delivered the opinion, and in the course the same used the following language:

The evidence shows that there is due the plaintiff, for himself a his assignors, the amount for which judgment in his favor was re dered, including penalty and attorney's fees. The lien which he seek is that for which section 3105 of the Code provides, as follow "Every laborer or miner, who shall perform labor in opening, deve oping, or operating any coal mine shall have a lien on all the propert of the person, firm, or corporation owning or operating such min and used in the construction or operation thereof, including real esta and personal property, for the value of such labor, to the full amou thereof, to be secured and enforced as mechanics' liens are." Th chief contention of the appellants is that the plaintiff and his assigno were not entitled to a lien, under the section quoted, on propert which neither the coal company nor Mallory owned.

The record shows that the plaintiff and each of his assignors dul filed a statement for a lien for his claim substantially as required b the mechanics' lien law, and notice thereof was served on Mary Burwell The improvements made by Mallory and the coal company were an air shaft, an air-course, and a side track. In addition, five or more ton of iron were placed in the mine, and also numerous props and timber of various kinds. The total value to the mine of the material furnishe and improvements made was not less than the amount found by th district court [$1,416.18]. It will be observed that the lien establishe by the court [$1,416.18], although on all of the land as well as th mine and personal property, was limited to the amount which th

property had been increased in value by the improvements made by the lessees.

We have no occasion to decide the rights of miners and others who perform labor for a lessee who added nothing, by improvements or otherwise, to the value of the leased premises, but merely diminished their value by removing coal therefrom. In such a case it would be a hardship, no doubt, for the owner to be compelled to pay the wages of the laborer in operating the mine, perhaps to lose his royalty; and then to receive back the leased property at a diminished value. But that is not the case before us. Although the lessor has failed to collect royalties to which she was enitled, to the amount of nearly $1,200, the value of the leased premises, as we have shown, has been enhanced to more than the amount of the plaintiff's claim. The statute expressly provides for a lien for labor performed in developing and operating a coal mine, upon all the property of the owner or operator of the mine used in its construction or operation. The lien was not designed to be limited to property of the operator of the mine which might be removed, or to improvements which he has made. If that were true, the lien would be ineffectual in most cases where the mines are leased, for the reason that the improvements of mines are largely of a value to the mine in which made, and not elsewhere. That is obviously true of air-shafts and air-courses, and of material used which can not be removed. Owners of mines who lease them do so charged with knowledge of the statute, which, to some extent, enters into and becomes a part of the contract. Chapter 47 of the acts of the 23d general assembly, now merged in section 3105 of the Code, was in force when the lease in question was made, and authorized the relief which the district court granted as against the appellants. The evidence and the statute authorize the decree, and it is affirmed.

DECISIONS UNDER COMMON LAW.

EMPLOYERS' LIABILITY—ACCEPTANCE OF BENEFITS FROM RELIEF FUND—RELEASE OF DAMAGES—VALIDITY OF CONTRACT—*Petty v. Brunswick and Western Railway Co., 35 Southeastern Reporter, page 82.*—In the city court of Brunswick, Ga., in a suit brought by Alfred Petty as plaintiff against the above-named railway company to recover damages for personal injuries incurred by the plaintiff while in the employ of the company, a judgment was rendered in favor of the defendant company and the plaintiff carried the case upon a writ of error to the supreme court of the State. Said court rendered its decision January 30, 1900, and affirmed the judgment of the lower court.

In the opinion of the court, which was delivered by Presiding Judge Lumpkin, certain principles of interest were laid down which are given in the syllabus of the decision, prepared by the court, in the following language:

1. A contract between an employee and his master, or another acting in the latter's interest, by the terms of which the employee, when physically injured, whether as a result of his own negligence or not,

or when sick, is to receive pecuniary and other valuable benefits, and which stipulates that his voluntary acceptance of any of such benefit in case of injury is to operate as a release of the master from all liability on account thereof, is not contrary to public policy.

2. That such a contract secured to the employee substantial benefits and that the master contributed to the fund for the payment thereof constituted a valuable consideration, as to the employee; and this is true though he himself made a small monthly contribution to the fund. A contract of this kind is not wanting in mutuality.

6. The acceptance by an injured employee of any benefit under a contract of the kind indicated in the first of the preceding notes is an election on his part to look exclusively to that source for compensation on account of the injury, and amounts to a complete accord and satisfaction of his claim for damages against his master therefrom arising.

SEAMEN—RIGHT TO WAGES FOR TIME OF SERVICE WHEN LEAVING SHIP BEFORE COMPLETION OF VOYAGE—INSUFFICIENT PROVISIONS—*The Forteviot, 98 Federal Reporter, page 440.*—This was a libel brought by seamen against the British bark *Forteviot* to recover wages. The evidence showed that the libelants had signed shipping articles for a voyage from England to New York, thence to Shanghai, thence to Tacoma, and thence back to England; that during the time they served on the vessel they were supplied with less food, on an average, than was called for by their shipping articles, and that on this account they left the ship at Tacoma and refused to serve longer. The case was heard in the United States district court for the district of Washington, western division, and by a decision rendered December 11, 1899, the court gave a judgment for the seamen.

From the opinion, delivered by District Judge Hunford, the following is quoted:

The sole question to be decided in this case is whether the libelants were justified in leaving the ship before the termination of the voyage described in their shipping articles, by reason of having suffered deprivation of sufficient food while they were in the ship.

The libelants were certainly entitled to have the full measure of the scanty allowance of food which they contracted for while serving in the ship, or sufficient to enable them to do their work without suffering from hunger. The contract between them and the ship was first broken by the captain [in failing to supply them with the amount of food contracted for], and, there being no reason to expect better treatment on the long voyage from Takoma to Europe, I hold that they were legally entitled to quit the service, and to recover full pay at the contract rate up to the time of leaving the ship.

LAWS OF VARIOUS STATES RELATING TO LABOR ENACTED SINCE JANUARY 1, 1896.

[The Second Special Report of the Department contains all laws of the various States and Territories and of the United States relating to labor in force January 1, 1896. Later enactments are reproduced in successive issues of the Bulletin from time to time as published.]

MISSOURI.

ACTS OF 1899.

Examination, licensing, etc., of barbers.

(Page 44.)

SECTION 1. It shall be unlawful for any person to follow the occupation of a barber in this State, unless he shall have first obtained a certificate of registration, as provided in this act: *Provided, however*, That nothing in this act contained shall apply to or affect any person who is now actually engaged in such occupation, except as hereinafter provided: *Provided*, That the provisions of this law shall not apply to barbers in any city, town or village containing less than 50,000 inhabitants.

SEC. 2. A board of examiners, to consist of three (3) persons, citizens of this State for at least three (3) years prior to their appointment, is hereby created to carry out the purposes and to enforce the provisions of this act. Such board shall be appointed by the governor, one member from such persons as may be recommended by the Missouri State Barbers' Protective Association; one member from such persons as may be recommended by the Boss Barbers' Protective Association of Missouri, and one member from those persons so recommended by the Journeymen Barbers' Union: *Provided*, That all barbers must have had at least a practice of at least five (5) years at the said occupation prior to their appointment. Each member so recommended shall appear before the State board of health, whose duty it shall be to determine whether or not such member possesses sufficient knowledge of contagious and inoculatious diseases to enable such member to pass judiciously upon the qualification of others in the occupation of barber. If said board of health shall reject an appointee, then the governor shall appoint someone else in place of the person so rejected, such appointment to be from the same class of persons from which the first appointment was made. If, on the other hand, the appointment be confirmed by the board, said board shall issue a certificate to that effect, and all appointments made under the provisions of this act shall date from the confirmation thereof by said State board. Each member of said board shall serve for a term of three (3) years and until his successor is appointed and qualified, except in the case of the first board, whose members shall serve one (1), two (2) and three (3) years, respectively, as specified in their appointment. Said board shall, with the approval of the State board of health, prescribe such sanitary rules as it may deem necessary with particular reference to the precautions necessary to be employed to prevent the creating and spreading of infectious or contagious diseases. A copy of such rules shall be furnished each person to whom a certificate of registration is granted. Each member of said board shall, before entering upon the discharge of his duties, give a bond in the sum of five thousand ($5,000.00) dollars, with a surety or sureties to be approved by the secretary of state, conditioned for the faithful performance of his duties, and shall take the oath provided by law for public officers. Vacancies upon said board caused by death, resignation or expiration from any cause of the term of any member thereof, shall be filled by appointment from the same class of persons to which the deceased or retiring member belonged.

SEC. 3. Said board shall elect a president, secretary and treasurer, shall have its headquarters at such place in the State as the board may determine; shall have a common seal, and the secretary and president shall have the power to administer oaths. A majority of said board may, in meeting duly assembled, perform the duties and exercise the powers devolving upon said board under the provisions of this act.

SEC. 4. Each member of said board shall receive a compensation of three ($3.00) dollars per day for his services, and also railroad fare and such other traveling expenses as may be necessary, in the proper discharge of his duties, and shall be paid out of any money in the hands of the treasurer of the said board. Said board shall also be allowed for such other expenditures and outlays, payable out of moneys in the hands of its treasurer, as shall be reasonable and proper for the discharge of their duties, and to carry out the provisions of this act.

SEC. 5. Said board shall report to the legislature of this State at each of its regular meetings a full statement of the receipts and disbursements of the board during the preceding two (2) years; a full statement of its doings and proceedings and such recommendations as it may deem proper, looking to the better carrying out of the intent and purposes of this act. Any money in the hands of the treasurer of said board at the time of making such report, in excess of five hundred ($500.00) dollars, shall be paid over to the state treasurer for the maintenance of the public schools of this State.

SEC. 6. Such board shall hold public examinations at least four (4) times in each year, at such times and places as it may deem advisable, notice of such meetings to be given by publication thereof at least ten (10) days prior to such meetings, in at least two (2) newspapers published in this State, in the locality of each proposed meeting.

SEC. 7. Every person now engaged in the occupation of barber in this State shall, within ninety (90) days after the approval of this act, file with the secretary of said board an affidavit, setting forth his name, residence and the length of time during which and the place where he has practiced such occupation, and shall pay to the treasurer of said board one ($1.00) dollar; and a certificate of registration entitling him to practice the said occupation for the fiscal year ending January thirty-first, 1900, thereupon shall be issued to him, and the holders of such certificates shall, within thirty (30) days after the expiration of their respective certificate, make application for the renewal of the same, stating the number of expiring certificate, and shall in each case pay to the treasurer of said board the sum of one ($1.00) dollar therefor. For any and every license or certificate given or issued by the board a fee of one ($1.00) dollar shall be paid by the person receiving the same.

SEC. 8. Any person not following the occupation of a barber at the time this act goes into operation, desiring to obtain a qualified certificate of the said occupation in this State, shall make application to said board therefor and shall pay to the treasurer of said board an examination fee of five ($5.00) dollars and shall present himself at the next regular meeting of the board, for the examination of applicants, whereupon said board shall proceed to examine such person, and, being satisfied that he is above the age of nineteen (19) years, of good moral character, free from contagious or infectious diseases, has either (a) studied the trade for two (2) years as an apprentice, under a qualified and practicing barber, or (b) studied the trade for at least two (2) years in a properly appointed and conducted barber school or college, under the instructions of a qualified barber, or (c) practiced the trade in another State for at least two (2) years, and is possessed of the requisite skill in said trade to properly perform all the duties thereof, including his ability in the preparation of the tools, shaving, hair cutting, and all the duties and services incident thereto, and is possessed of sufficient knowledge concerning the common diseases of the face and skin to avoid the aggravation and spreading thereof in the practice of said trade, shall enter his name in the register hereafter provided for, and shall issue to him a certificate of registration, authorizing him to practice said trade in this State: *Provided*, That whenever it appears that applicant has acquired his knowledge of said trade in a barber school or college the board shall be judges of whether said barber school or college is properly appointed and conducted and under proper instructions to give sufficient training in said trade. All persons making such application for examination under the provisions of this act shall be allowed to practice the occupation of barbering until the meeting for the next regular examination by the said board, and no longer, and the secretary shall give him a permit to do so: *Provided, however*, That such time may be extended by the board for good cause shown.

SEC. 9. Nothing in this act shall prohibit any person from serving as an apprentice in said trade under license issued by the board under a barber authorized to practice (in) the same, under this act, nor from serving as a student in any school or college for the teaching of said trade, under the instructions of a qualified barber: *Provided*, That in no barber shop shall there be more than one apprentice to two (2) barbers, authorized under this act to practice said occupation, but all barber shops having but one chair shall be entitled to one apprentice: *And provided*, That all barber schools or colleges shall keep prominently displayed a sign, barber college or barber school, and no other sign or signs: *Provided*, That all barbers or barber schools or colleges

who shall take an apprentice or student shall file immediately with said board the name and age of such apprentice or student, and the said board shall cause the same to be entered in a register kept for that purpose.

SEC. 10. Said board shall furnish to each person to whom a certificate of registration is issued a card or certificate, in such form as it shall adopt, bearing the seal of the board and the signature of its president and secretary, certifying that the holder thereof is entitled to practice the occupation of barber in this State, and it shall be the duty of the holder of such card or insignia to post the same in a conspicuous place in front of his working chair where it may be readily seen by all persons whom he may serve.

SEC. 11. Said board shall keep a register, in which shall be entered the names of all persons to whom certificates are issued, and to whom permits for serving apprenticeship, or as students, under this act, and said register shall, at all times, be open to public inspection.

SEC. 12. Said board shall have power to revoke any certificate of registration granted by it under this act for (a) conviction of crime; (b) habitual drunkenness; (c) gross incompetency; (d) failure or refusal to properly provide or guard against contagious or infectious disease, or the spreading thereof, in the practice of the occupation aforesaid; or (e) violation of the rules of the board mentioned in section two (2) of this act: *Provided*, That before any certificate shall be so revoked the holder thereof shall have notice in writing of the charge or charges against him, and shall, at a day specified in said notice, at least five (5) days after the service thereof, be given a public hearing on said charges, and full opportunity to produce testimony in his behalf and to confront the witnesses against him. Any person whose certificate has been so revoked may, after the expiration of ninety (90) days, apply to have the same regranted to him, upon a satisfactory showing that the disqualification has ceased.

SEC. 13. Any person who is engaged in the capacity so as to shave the beard or cut and dress the hair for the general public, shall be construed as practicing the occupation of barber, and the so said barber or barbers shall be required to fulfill all requirements within the meaning of this act.

SEC. 14. Any person practicing the occupation of barber without having obtained a certificate of registration as provided in this act, or willfully employing a barber who has not such certificate, or falsely pretending to be qualified to practice as barber or instructor or teacher of said occupation under this act, or failing to keep the certificate or card mentioned in section ten (10) of this act properly displayed, or failing to comply with such sanitary rules as the board, in conjunction with the State board of health, prescribes, or for the violation of any of the provisions of this act, shall be deemed guilty of a misdemeanor, and the board shall proceed against all such persons, and upon conviction thereof they shall be punished by a fine of not less than ten ($10.00) dollars or more than one hundred ($100.00) dollars, or by imprisonment in the county jail not less than ten (10) days or more than ninety (90) days. Prosecutions under this act shall be begun and carried on in the same manner as other prosecutions for misdemeanors in this State.

Approved May 5, 1899.

Free public employment bureaus.

(Page 272.)

SECTION 1. The commissioner of labor statistics shall organize and establish in all cities in Missouri containing one hundred thousand inhabitants or more, a free public employment bureau, for the purpose of receiving applications of persons seeking employment and applications of persons seeking to employ labor. No compensation or fee shall be charged or received, directly or indirectly, from persons applying for employment or help through any such bureau. Such commissioner shall appoint for each bureau one superintendent, and may appoint for each one clerk, and may remove the same for good and sufficient cause. The salary of the superintendents shall not exceed one hundred dollars per month, and the salary of the clerks shall not exceed seventy-five dollars per month. Such salaries and the expenses of such bureaus shall be paid in the same manner as other expenses of the bureau of labor statistics.

SEC. 2. The superintendent of each free public employment bureau shall receive and record, in a book to be kept for that purpose, the names of all persons applying for employment or for help, designating opposite the name and address of each applicant the character of employment or help desired. Such superintendent shall also perform such other duties in the collection of labor statistics and in keeping of books

and accounts of his bureau as the commissioner may require, and shall report monthly to the commissioner of labor statistics the expenses of maintaining his bureau.

SEC. 3. Every application for employment or help made to a free employment bureau shall be void after thirty days from its receipt, unless removed by the applicant. If an applicant for help has secured the same, he shall, within ten days thereafter, notify the superintendent of the bureau to which application was therefor made. Such notice shall contain the name and last preceding address of the employees received through such bureau. If any such applicant neglects to notify such superintendent he shall be barred from all future rights and privileges of such employment bureau, at the discretion of the commissioner of labor statistics, to whom the superintendent shall report such neglect.

SEC. 4. The urgent demand for the immediate application of the provisions of this act is such as to create an emergency within the meaning of the constitution; therefore, this act shall take effect and be in force from and after its passage.

Approved May 23, 1899.

Manufacturing in tenement or dwelling houses—Sweating system.

(Page 273.)

SECTION 1. No room or apartment in any tenement or dwelling house shall be used by more than three persons, not immediate members of the family living therein, for the manufacture of any wearing apparel, purses, feathers, artificial flowers or other goods for male or female wear. Every person, firm or corporation contracting for the manufacture of any of the articles mentioned in this section, or giving out the complete material from which they are to be made, or to be wholly or partially finished, shall keep a register of the names and addresses of all persons to whom such work is given to be made or whom they have contracted to do the same. Such register shall be produced for the inspection, and a copy thereof shall be furnished to the labor commissioner or factory inspector on demand.

SEC. 2. No person, firm or corporation shall knowingly sell or expose for sale any of the articles mentioned herein when such articles were made in violation of this act; and the labor commissioner, his deputy or any officer appointed to enforce the provisions of this act, who shall find any such articles made in violation of the provisions of this act, who shall find that the articles herein mentioned are made under unclean or unhealthy conditions, shall conspicuously affix thereto a label containing the words "tenement made" or "made under unhealthy conditions," as the case may be, printed in plain letters on a tag not less than two inches in length, and it shall be unlawful to remove such tag, except by the permission of the labor commissioner or the officer under whose direction such label was affixed.

SEC. 3. Any person, firm or corporation engaged in the manufacture or sale of the articles herein mentioned who shall violate or who shall fail to comply with the provisions of this act, shall be deemed guilty of a misdemeanor, and on conviction, shall be punished by a fine of not less than ten nor more than fifty dollars, or by imprisonment in the county jail for a period of not more than ten days, or by both such fine and imprisonment.

Approved June 2, 1899.

Sanitation and hours of labor in bakeries, etc.

(Page 274.)

SECTION 1. No employee shall be required, permitted or suffered to work in a biscuit, bread, pastry or cake bakery or other bakery or confectionery establishment in this State more than six days in one week, said week to commence at a stated time, "post meridian," on Sunday, and to terminate not later than the corresponding time on Saturday of the same week—excepted from this rule may be the time on Sunday for setting the sponges for the night's work following. No person under the age of sixteen years shall be employed in any bake shop between the hours of nine o'clock at night and five o'clock in the morning.

SEC. 2. All rooms or buildings occupied as biscuit, bread or cake bakeries shall be drained and plumbed in a manner to conduce to the proper and healthful sanitary condition thereof, and constructed with air-shafts, windows or ventilating pipes, sufficient to insure ventilation. The furniture and utensils in such rooms shall be so arranged that the furniture and floor may at all times be kept in a proper and healthful sanitary condition, and no water-closet, earth closet, privy or ash pit shall be within or communicate directly with the bake room.

SEC. 3. The manufactured flour or meal products shall be kept in perfectly clean, dry and properly ventilated rooms, so arranged that the floor, shelves and all facilities for storing same can be easily and perfectly cleaned.

SEC. 4. The sleeping apartments for the persons employed in bakeries or confectionery establishments shall be separate and distinct from the room or rooms used for manufacture or storage of flour or meal products or for the storage of flour, meal or other articles used in the manufacture or preparation of such product.

SEC. 5. No employer shall knowingly require, permit or suffer any person to work in his bake shop who is affected with consumption of the lungs or with scrofula or any communicable skin disease, and every person is hereby required to keep himself in a cleanly condition while engaged in the manufacture or handling of such products.

SEC. 6. Any person who violates any of the provisions of this act, or refuses to comply with the requirements thereof, shall be deemed guilty of a misdemeanor, and, on conviction, shall be punished by a fine of not less than ten or more than one hundred dollars.

SEC. 7. It shall be the duty of [the] labor commissioner or his deputy to see that the provisions of this act are carried into effect, and it is hereby made the duty of the prosecuting attorneys of each county or city in this State to lend all possible aid in all prosecutions for violations of any of the provisions of this act.

SEC. 8. A copy of this act shall be kept conspicuously posted in every bake shop or confectionery establishment in this State.

SEC. 9. Sections 17 and 18 of an act entitled "An act relating to manufacturing, mechanical, mercantile and other establishments and places, and the employment, safety, health and work hours of employees," approved April 20, 1891, are hereby repealed.

Approved May 29, 1899.

Coal mine regulations—Screening of coal before weighing prohibited.

(Page 303.)

SECTION 1. Section 7054, chapter 115, article 1, of the Revised Statutes of the State of Missouri, is hereby amended * * * so that said section, when amended, shall read as follows:

SECTION 7054. It shall be unlawful for any mine owner, lessee or operator of coal mines in this State, employing miners at bushel or ton rates, or other quantity, to pass the output of coal mined by said miners over any screen or any other device which shall take any part from the value thereof before the same shall have been weighed and duly credited to the employee sending the same to the surface, and accounted for at the legal rate of weights as fixed by the laws of Missouri; and no employee within the meaning of this act shall be deemed to have waived any right accruing to him under this section by any contract he may make contrary to the provisions thereof. And any provision, contract or agreement between mine owners or operators thereof, and the miners employed therein, whereby the provisions of this act are waived, modified or annulled, shall be void and of no effect, and the coal sent to the surface shall be accepted or rejected; and if accepted, shall be weighed in accordance with the provisions of this act, and right of action shall not be invalidated by reason of any contract or agreement; and any owner, agent or operator of any coal mine in this State who shall knowingly violate any of the provisions of this section shall be deemed guilty of a misdemeanor, and, upon conviction, shall be punished by a fine of not less than two hundred dollars nor more than five hundred dollars for each offense, or by imprisonment in the county jail for a period of not less than sixty days nor more than six months, or by both such fine and imprisonment; proceedings to be instituted in any court having competent jurisdiction.

Approved June 3, 1899.

Coal mine regulations—Weighing of coal.

(Page 304.)

SECTION 1. Section 7056, chapter 115, article 1, relating to the weighing of coal and false scales, is hereby repealed and a new section in lieu thereof is enacted as follows:

SECTION 7056. That every owner, agent or operator of any coal mine in the State, employing miners at bushel or ton rates, shall provide at such mine or mines accurate and suitable scales of standard manufacture upon which shall be weighed all coal

coming out of such mine or mines; said scale or scales to be located at a reasonable distance from the point where the coal is delivered to the surface opening of the mine or mines, and in no case shall said scale or scales be located at a greater distance from said surface opening of the mine or mines than one hundred feet. Any owner agent, operator, person, or persons having or using any scales or scale for the purpose of weighing the product of the miners' labor, and so arranges or constructs said scale or scales, or by any contrivance therewith connected causes the fraudulent weighing of such coal or said product, or who shall knowingly resort to, permit or employ any person or means whatsoever, by reason of which said product of the mine is not correctly weighed and reported in accordance with the true weight and the provisions of this act, shall be deemed guilty of a misdemeanor, and shall, upon conviction for each and every offense, be punished by a fine of not less than two hundred dollars, nor more than five hundred dollars, or by imprisonment in the county jail for a period not to exceed ninety days, or by both such fine and imprisonment; proceedings to be instituted in any court of competent jurisdiction.

Approved March 15, 1899.

Payment of wages.

(Page 305.)

SECTION 1. Sections 7058 and 7060 [of the Revised Statutes of Missouri for 1889] are hereby repealed.

Approved May 15, 1899.

Payment of wages.

(Page 305.)

SECTION 1. Section 7059 of the Revised Statutes of Missouri for 1889, as amended by the acts of 1891, page 183, is hereby repealed and the following new section enacted in lieu thereof, to be known as section 7059:

SECTION 7059. The employees of the operators of all mines operated within this State for the production of any kind of mineral shall be regularly paid in full of all wages due them at least once in every fifteen (15) days, except that the operators of coal mines shall pay their employees once every fifteen days, on demand of any such employee, and at no pay day shall there be withheld any of the earnings due any employee. Any such operator who fails or refuses to pay his employees, their agents, assigns or anyone duly authorized to collect such wages, or anyone interested in the payment due such employees, as in this section provided, shall become immediately liable to any such employee, his agents or assigns, or anyone interested for an amount double the sum due such employee at the time of such failure or refusal to pay the wages due, to be recovered by civil action in any court of competent jurisdiction within this State. And no employee, within the meaning of this article, shall be deemed to have waived any right accruing to him under this section by any contract he may make contrary to the provisions hereof: *Provided*, Coal mining companies may contract with their employees to pay once a month: *And provided, further*, That at no pay day of any coal mining company shall there be withheld of the earnings of any coal mine employee any sum to exceed the amount due him for his labor for ten days next preceding any such pay day.

Approved May 3, 1899.

Mine inspectors.

(Page 306.)

SECTION 1. Section 7071 of an act to repeal section 7071 of an act entitled "An act to repeal section 7071, article 2, chapter 115 of the Revised Statutes of the State of Missouri," approved April 18, 1893, is hereby amended * * * so that said section, when so amended, shall read as follows:

SECTION 7071. The governor shall appoint two mine inspectors, by and with the advice and consent of the senate, one for coal mines, who shall have had practical experience in coal mining, and one for lead, zinc, iron and other mines, and shall have practical mining experience in mines other than coal mines; neither of whom shall be interested in any mine; each to receive a salary of $1,500 per annum and actual traveling expenses, to be paid quarterly out of the general revenue fund.

Approved May 18, 1899.

Bureau of mines—Mine inspectors.

(Page 307.)

SECTION 1. An act entitled "An act to repeal section 7071, article 2, chapter 115, Revised Statutes of 1889, relating to the safety and inspection of mines," approved April 18, 1893, is hereby repealed and the following enacted in lieu thereof, to be known as section 7071:

SECTION 7071. There is hereby created a department to be known as the bureau of mines, mining and mine inspection, with its office located in the State capitol. The governor shall appoint two mine inspectors, one for coal mines, who shall have had practical experience in coal mines, and one for lead, zinc, iron and other mines, who shall have had practical experience in lead and zinc mines and mines other than coal mines; neither of whom shall be interested in any mine, and each to receive a salary of $1,500.00 per annum. The inspectors shall have authority to appoint a secretary who, in addition to his other qualifications, shall be a draftsman and competent to thoroughly understand and prepare mine maps, and who shall act as assistant in the field to either of the inspectors when required, and shall receive a salary of $1,500 per annum. There shall also be allowed and paid out of the general revenue fund the actual traveling expenses of the inspectors, but not of the assistant, and the cost of postage, express charges and telegraphic messages.

Approved April 26, 1899.

[NOTE.—Although the two acts immediately preceding this note are both published in the Laws of Missouri of 1899, it seems probable that the former is intended to repeal the latter. As, however, they are both published by the State authorities they are both reproduced here.]

Duties of mine inspectors.

(Page 307.)

SECTION 1. Section 7072, chapter 115, article 2, of the Revised Statutes of the State of Missouri, is hereby amended * * * so that said section, when amended, shall read as follows:

SECTION 7072. The inspectors provided for in this article shall see that every necessary precaution is taken to secure the health and safety of the workmen employed in any of the mines in the State, that the provisions and requirements provided for in this article be faithfully observed and obeyed, and the penalties of the law enforced. They shall also collect and tabulate in their report, to be made to the governor on the 15th day of October of each year, the extent of the workable mining lands in this State by counties; also the manner of mining, whether by shaft, slope, or drift, the number of mines in operation, the number of men employed therein, the amount of capital invested and the amount and value of all mine products.

Approved May 17, 1899.

Competency of coal miners—Amending chapter 115, article 2, of the Revised Statutes of 1889, by adding a new section thereto, to be known as section 7077c.

(Page 308.)

[SECTION 1.] SECTION 7077c. Any person desiring to perform the work of a coal miner, and for himself to conduct room, entry or other underground mining in coal mines in this State, shall before being permitted to engage in such work, produce evidence of a satisfactory nature, that he has for two successive years worked in coal mines with or as a practical miner; such applicant to furnish evidence of his experience and qualifications to the coal mine inspector or to the person designated by said inspector to pass upon the competency of such applicant, and until said applicant shall have fully satisfied the coal mine inspector or the party designated by said inspector at the mine wherein such employment is sought, of his fitness to perform the duties as above mentioned, he shall not be allowed to mine coal unless associated with a practical miner for such length of time as will qualify said applicant to safely for himself and others perform underground work, and any owner, agent, or operator of any coal mine in this State, who shall knowingly violate any of the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction, shall be punished by a fine of not less than fifty dollars nor more than two hundred dollars for each and every offense or by imprisonment in the county jail for a period of not less than thirty days nor more than sixty days, or by both such fine and imprison-

ment, proceedings to be instituted in any court having competent jurisdiction: *Provided*, That in any case where a party offering to work in a mine, is by the mine inspector or his agent refused the privilege to work, but is nevertheless put to work by the mine operator, and the mine operator be prosecuted for permitting said party to work, it may be lawful for such mine operator to show, by way of defense, that the person put to work was competent to perform the work assigned to him, with safety to himself and his fellow-laborers: *And provided, further*, That the provisions of this act shall not apply to mines working or employing less than fifteen men: *Provided, further*, That the evidence of practical experience, where a miner leaves one mine to seek employment in any other mine in this State, may be certified to by the mine inspector or person or persons designated by him at the respective mines to pass upon the competency of the applicant, etc., and that such certificate of competency shall be good and sufficient evidence without further examination: *Provided, further*, That the judge of the circuit court of the district in which said coal mines are located shall have power to review and set aside the action of the mine inspector (of) [or] persons designated by him, and the decision of said judge shall be final.

Approved June 2, 1899.

Mines—Comfort of employees.

(Page 309.)

SECTION 1. On and after the passage and taking effect of this act, all owners, lessees and operators of any mine in this State, the work of which is located below the surface of the ground, entrance to which is had by any shaft, cut or tunnel, shall allow the laborers and miners in their several mines to come to the surface of the ground for the purpose of eating their noonday meal (or any other meal for which, under the rules of any mine a time is set apart); and that at least one hour shall be allowed any miner or laborer for that purpose, and for rest after he reaches the surface of the ground, and before reentering into any mine where he or she may be engaged as laborer or miner. Also, that the owner, lessee or operator of any mine in this State is hereby required to run his cage or hoisting apparatus to the surface of the ground for the purpose of carrying any such miner or laborer, who may be going to or returning from any such aforementioned meal and rest, free of cost to any such miner or laborer.

SEC. 2. Any owner, lessee or operator of any mine in this State who shall fail or refuse to carry out any of the provisions of section one of this act shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined in a sum not less than one ($1) dollar nor more than twenty-five ($25) dollars; and each failure or refusal shall constitute a separate offense.

SEC. 3. All acts or parts of acts not consistent with this act are hereby repealed.

Approved May 8, 1899.

Coal mines—Hoisting.

(Page 310.)

SECTION 1. The owner, agent or operator of all coal mines employing twenty-five or more men, where steam is used in lowering or hoisting men in a shaft, shall cause a competent person to be stationed at the top of the shaft, and a competent person to be stationed at the bottom of the shaft, whose duties shall be to answer all signals for the lowering or hoisting of men in the shaft, and to keep watch over, and control of, such signals while men are being lowered or hoisted in the shaft. The persons so appointed to look after said signals shall be at their posts of duty at least thirty minutes before the hoisting of coal has commenced in the morning, and shall remain after the hoisting of coal has ceased in the evening, at least thirty minutes. Whenever six persons shall present themselves at the bottom of the shaft, and after having finished their day's work, or otherwise having been prevented from working, an empty cage shall be furnished the same on which to ascend. And any owner, agent or operator of coal mines in this State, who shall knowingly violate any of the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction, shall be punished by a fine of not less than one hundred dollars, nor more than three hundred dollars for each offense, or by imprisonment in the county jail for not less than thirty days nor more than ninety days, or by both such fine and imprisonment.

Approved March 15, 1899.

Coal mines—Inspection of weights and measures.

(Page 311.)

SECTION 1. The coal mine inspector of this State shall be ex officio inspector of weights, measures and scales used at coal mines, and he is hereby empowered and it shall be his duty to test the scales used to weigh coal mined in the mines of this State at least every six months, to ascertain whether or not such scales correctly measure the weight of such coal, and if defects or irregularities are found, such scales which prevent correct weights and measurements the inspector shall call the attention of the mine owner, agent or operator to said defects and direct that the same be at once properly adjusted and corrected. If the owner, agent or operator of any coal mine in this State shall refuse to allow such inspector to properly test the scales used at such mine or mines, or shall fail or refuse to put such scales in proper adjustment and condition, so that the same shall correctly weigh the coal mined after being notified by said inspector so to do, such owner, agent or operator shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not exceeding five hundred dollars, or be confined in the county jail not exceeding six months, or both in the discretion of the court, and it shall be the duty of the prosecuting attorneys in the respective counties to prosecute any person, firm or corporation violating the provisions of this act the same as in other misdemeanor cases.

Approved March 15, 1899.

Coal mines—Miners' liens for wages.

(Page 311.)

SECTION 1. All miners and other employees engaged in the work of developing and opening up coal mines, the sinking of shafts, the construction of slopes or drifts, the driving of entries, mining coal, and for all other labor performed in and about coal mines, shall have, as security for such work performed, a lien upon all the property of the person, owner, agent, firm, or corporation owning, constructing or operating such mine or mines, used in construction or operation thereof, including real estate, building, machinery, pit cars, tracks, mules, scales, and all other personal property, to satisfy in full the amount due for such labor performed; the same to be enforced and secured upon the same general terms and after the manner of procedure in granting mechanics' liens.

Approved March 15, 1899.

Hours of labor in mines, etc.

(Page 312.)

SECTION 1. It shall be unlawful for any person or persons, or corporation engaged in mining for minerals, stone or any valuable substance, or in making excavations at a greater depth than two hundred feet where lead or zinc ore is mined beneath the surface of the earth while searching for minerals, stone, or any valuable substance, to work their hands or employees, at such labor or industry, continuously longer than eight hours in a day of twenty-four hours, and it is hereby declared that eight hours shall constitute a day for all laborers or employees engaged in the kind of labor or industry aforesaid: *Provided*, That nothing in this section shall be so construed as to apply to any person or persons or corporations engaged in coal mining.

SEC. 2. Any person or persons, or corporation who shall violate any of the provisions of the preceding section shall, on conviction, be fined in a sum not less than twenty-five nor more than five hundred dollars, or by imprisonment in the county jail not exceeding three months, or by both such fine and imprisonment.

SEC. 3. All acts or parts of acts inconsistent with this act are hereby repealed.

Approved May 11, 1899.

Revising and amending chapter 152 of the Revised Statutes of 1889—Bureau of labor statistics, etc.

(Page 371.)

CHAPTER 152.

ARTICLE I.

SECTION 1. There is hereby established a separate and distinct department in this State, to be known as the "Bureau of labor statistics and inspection of factories, mines and workshops." (R. S. 1889, sec. 8215.)

SEC. 2. The object of this department shall be to collect, assort, systematize and present in annual report to the governor, to be by him transmitted biennially to the general assembly, statistical details and information relating to all the departments of labor in the State, especially in its relations to the commercial, industrial, social, educational and sanitary condition of the laboring classes, and to the permanent prosperity of the productive industries of the State, and also to secure the inspection of all factories, warehouses, workshops, foundries, machine shops and other manufacturing establishments, where persons, male and female, are employed throughout the State, and the observance of the regulations herein relating thereto. (R. S. 1889, sec. 8216, amended.)

SEC. 3. The governor shall, with the advice and consent of the senate, appoint, immediately after this article goes into effect, and every two years thereafter, commencing on the first Wednesday in February, 1885, some suitable person to perform the duties herein required, who shall be known as "commissioner of labor statistics and inspection," and who shall keep an office at the permanent seat of government. (R. S. 1889, sec. 8717, amended.)

SEC. 4. The commissioner shall have power and authority in the discharge of his duties to enter and to inspect all factories, warehouses, elevators, workshops, tunnels, foundries, machine shops and other manufacturing establishments, and he shall, as far as practicable, inspect or cause to be inspected the same, and shall, annually, on or before the 5th day of November, present a report thereof, in writing, to the governor, which shall contain statistical details relating to all departments of labor in the State, and to the inspection made by him, together with such other information as is contemplated by section 8216. (R. S. 1889, sec. 8218, amended.)

SEC. 5. The commissioner shall have power to administer oaths or affirmations, to examine witnesses and to take and preserve evidence; and it shall be the duty of all State, county and municipal officers to furnish to said commissioner, upon his request, all statistical information in reference to labor which may be in their possession as such officers. (R. S. 1889, sec. 8219.)

SEC. 6. The owner, lessee, operator or manager of any factory, workshop, warehouse, elevator, foundry, machine shop or other manufacturing establishment, shall not put at work or place therein for the purpose of labor or service, more persons in any one room than hygienic laws will warrant with safety to the health of such persons; all such rooms or places of employment shall have sufficient ventilation to carry off all foul or impure air, and to reduce the air of such room or place of employment to the standard of fresh air as near as may be practicable. Such rooms or places shall also have a sufficient number of doors, stairways and fire escapes for the ready egress and escape of the maximum number of employees therein; and it is hereby made the duty of said commissioner to include in his annual report any nonobservance of the requirements and regulations contained in this section which may come to his knowledge, together with the facts in relation thereto, and such suggestions and recommendations as he may deem proper. (R. S. 1889, sec. 8220, amended.)

SEC. 7. Any owner, operator, manager, or lessee of any factory, workshop, warehouse, elevator, foundry, machine shop or other manufacturing establishment, or any agent or employee of such owner, operator, manager or lessee, who shall refuse to said commissioner admission therein for the purpose of inspection, or who shall, when requested by him, neglect or refuse to furnish to him any statistical or other information relative to his duties which may be in their possession or under their control, shall, for every such neglect or refusal, be deemed guilty of a misdemeanor, and shall, on conviction, be fined in a sum not less than twenty-five nor more than one hundred dollars. (R. S. 1889, sec. 8221, amended.)

SEC. 8. The commissioner of labor statistics and inspection shall receive an annual salary of two thousand dollars, payable monthly, and said commissioner is hereby authorized to employ such assistance and incur such expense, not exceeding two thousand dollars per annum, as may be necessary to carry out the provisions of this article, such expenses to be paid on the vouchers presented by the commissioner: *Provided, however,* That said expenses shall not exceed, in any one year, the amount appropriated therefor; said commissioner shall, before entering upon the duties of his office, execute a bond to the State of Missouri, in the sum of twenty thousand dollars, with two or more good and sufficient sureties, conditioned upon the faithful, honest and impartial performance of his duties under this article, which bond shall be approved by the state auditor and filed in his office. Said commissioner shall include in his annual report to the governor an itemized statement of the expenses of the bureau incurred by him. (R. S. 1889, sec. 8222.)

SEC. 9. Nothing herein contained shall be construed to repeal or in any way affect the provisions of an act entitled "An act providing for the health and safety of persons employed in coal mines, and providing for the inspection of same," approved

March 23, 1881, and it is hereby made the duty of said commissioner to secure, as far as may be in his power, a proper observance of the provisions of said act on the part of county and other courts throughout the State. (R. S. 1889, sec. 8223, amended.)

ARTICLE II.

SECTION 2. It shall be the duty of every owner, operator or lessee of any factory, foundry, machine shop or other manufacturing establishment doing business within this State to report, annually, on or before the first day of March, to the commissioner of the bureau of labor statistics and inspection, the name of firm or corporation and the number of members, male and female, constituting the same; where located, capital invested in grounds, buildings and machinery; class and value of goods manufactured, aggregate value of raw material used; total number of days in operation; amount paid yearly for rent, taxes and insurance; total amount paid in wages; total number of employees, male and female; number engaged in clerical and manual labor; with detailed classification of the number and sex of employees engaged in each class, and average daily wages paid to each. (R. S. 1889, sec. 8225, amended.)

SEC. 3. The commissioner of the bureau of the statistics of labor is hereby authorized to furnish suitable blanks to the owner, operator, manager or lessee of any factory, workshop, elevator, foundry, machine shop or any other manufacturing establishment, to enable said owner, operator, manager or lessee to intelligently comply with the provisions of section 8225 of this article; and any such owner, operator, manager or lessee who shall neglect or refuse to comply with the provisions of this article, or who shall untruthfully answer any question or questions put to him by the commissioner of labor, in a circular or otherwise, in furtherance of the provisions of section 8225, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine of not less than one hundred dollars nor more than two hundred dollars. (R. S. 1889, sec. 8226, amended.)

SEC. 4. The fact that the collection of statistics of last year's manufactures should be begun at once, creates an emergency within the meaning of the constitution; therefore, this act shall take effect and be in force from and after its passage.

Approved May 31, 1899.

RECENT GOVERNMENT CONTRACTS.

[The Secretaries of the Treasury, War, and Navy Departments have consented to furnish statements of all contracts for constructions and repairs entered into by them. These, as received, will appear from time to time in the Bulletin.]

The following contracts have been made by the office of the Supervising Architect of the Treasury:

ELLIS ISLAND, N. Y.—May 4, 1900. Contract with Louis Wechsler, New York, N. Y., for construction, except electric-light wiring, heating and ventilating apparatus, and elevators, of the immigrants' disinfecting bath house and laundry, the kitchen and restaurant building, certain covered walks between buildings, and the boiler house, $135,400. Work to be completed December 1, 1900.

PHILADELPHIA, PA.—May 31, 1900. Contract with Chas. McCaul for completion, except elevators, electric wiring and conduits, of Mint building, $450,000. Work to be completed May 1, 1901.

OMAHA, NEBR.—June 7, 1900. Contract with Charles W. Gindele Company, Chicago, Ill., for extension, and changes incidental thereto, of court-house, custom-house, and post-office, $340,000. Work to be completed within sixteen months.

SAN FRANCISCO, CAL.—June 20, 1900. Contract with McPhee Company for cleaning and pointing stone facing of the branch mint, $5,540. Work to be completed within eighty-five days.

CHICAGO, ILL.—June 21, 1900. Contract with The Campbell Building Company, for the extension, except heating apparatus, electric wiring, and approaches, to the temporary building for the post-office, $28,937. Work to be completed within ninety days.

PHILADELPHIA, PA.—June 25, 1900. Contract with Keller, Pike & Co., for the installation of a complete system of electric wiring in the Mint building, $27,460. Work to be completed within one hundred days.

WASHINGTON, D. C.—July 3, 1900. Contract with E. Keeler Company, Williamsport, Pa., for new boilers, etc., for the Treasury building, $17,980. Work to be completed by October 1, 1900.

WASHINGTON, D. C.—July 3, 1900. Contract with Otis Elevator Company, New York, N. Y., for electric elevator for the Bureau of Engraving and Printing, $6,940. Work to be completed within ninety days.

PHILADELPHIA, PA.—July 5, 1900. Contract with Stokes & Parrish Elevator Company for eight electric elevators for new Mint building, $44,980. Work to be completed within one hundred and forty working days.

DUBUQUE, IOWA.—July 9, 1900. Contract with Otis Elevator Company, New York, N. Y., for electric elevator for custom-house and post-office, $6,490. Work to be completed within ninety days.

ST. LOUIS, MO.—July 9, 1900. Contract with H. D. Crane, Cincinnati, Ohio, for alterations in heating and ventilating apparatus of custom-house and post-office, $10,881. Work to be completed within seventy days.

O

LEADING ARTICLES IN PAST NUMBERS OF THE BULLETIN.

No. 1. Private and public debt in the United States, by George K. Holmes.
Employer and employee under common law, by V. H. Olmsted and S. D. Fessenden.
No. 2. The poor colonies of Holland, by J. Howard Gore, Ph. D.
The industrial revolution in Japan, by William Elroy Curtis.
Notes concerning the money of the U. S. and other countries, by W. C. Hunt.
The wealth and receipts and expenses of the U. S., by W. M. Stewart.
No. 3. Industrial communities: Coal Mining Co., of Anzin, by W. F. Willoughby.
No. 4. Industrial communities: Coal Mining Co., of Blanzy, by W. F. Willoughby.
The sweating system, by Henry White.
No. 5. Convict labor.
Industrial communities: Krupp Iron and Steel Works, by W. F. Willoughby.
No. 6. Industrial communities: Familistère Society of Guise, by W. F. Willoughby.
Cooperative distribution, by Edward W. Bemis, Ph. D.
No. 7. Industrial communities: Various communities, by W. F. Willoughby.
Rates of wages paid under public and private contract, by Ethelbert Stewart.
No. 8. Conciliation and arbitration in the boot and shoe industry, by T. A. Carroll.
Railway relief departments, by Emory R. Johnson, Ph. D.
No. 9. The padrone system and padrone banks, by John Koren.
The Dutch Society for General Welfare, by J. Howard Gore, Ph. D.
No. 10. Condition of the negro in various cities.
Building and loan associations.
No. 11. Workers at gainful occupations at the Federal censuses of 1870, 1880, and 1890, by William C. Hunt.
Public baths in Europe, by Edward Mussey Hartwell, Ph. D., M. D.
No. 12. The inspection of factories and workshops in the U. S., by W. F. Willoughby.
Mutual rights and duties of parents and children, guardianship, etc., under the law, by F. J. Stimson.
The municipal or cooperative restaurant of Grenoble, France, by C. O. Ward.
No. 13. The anthracite mine laborers, by G. O. Virtue, Ph. D.
No. 14. The negroes of Farmville, Va.: A social study, by W. E. B. Du Bois, Ph. D.
Income, wages, and rents in Montreal, by Herbert Brown Ames, B. A.
No. 15. Boarding homes and clubs for working women, by Mary S. Ferguson.
The trade-union label, by John Graham Brooks.
No. 16. The Alaskan gold fields and the opportunities they offer for capital and labor, by Sam. C. Dunham.
No. 17. Brotherhood relief and insurance of railway employees, by Emory R. Johnson, Ph. D.
The nations of Antwerp, by J. Howard Gore, Ph. D.
No. 18. Wages in the United States and Europe, 1870 to 1898.
No. 19. The Alaskan gold fields and the opportunities they offer for capital and labor, by Sam. C. Dunham.
Mutual relief and benefit associations in the printing trade, by W. S. Woodby.
No. 20. Condition of railway labor in Europe, by Walter E. Weyl, Ph. D.
No. 21. Pawnbroking in Europe and the United States, by W. R. Patterson, Ph. D.
No. 22. Benefit features of American trade unions, by Edward W. Bemis, Ph. D.
The negro in the black belt: Some social sketches, by W. E. B. Du Bois, Ph. D.
Wages in Lyons, France, 1870 to 1896.
No. 23. The attitude of women's clubs and associations toward social economics, by Ellen M. Henrotin.
The production of paper and pulp in the U. S. from Jan. 1 to June 30, 1898.
No. 24. Statistics of cities.
No. 25. Foreign labor laws: Great Britain and France, by W. F. Willoughby.
No. 26. Protection of workmen in their employment, by Stephen D. Fessenden.
Foreign labor laws: Belgium and Switzerland, by W. F. Willoughby.
No. 27. Wholesale prices: 1890 to 1896, by Roland P. Falkner, Ph. D.
Foreign labor laws: Germany, by W. F. Willoughby.
No. 28. Voluntary conciliation and arbitration in Great Britain, by J. B. McPherson.
System of adjusting wages, etc., in certain rolling mills, by J. H. Nutt.
Foreign labor laws: Austria, by W. F. Willoughby.

3 2044 019 193 26